NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE....102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

SUGGESTED BY THE RETURN OF JUNE.

"Bland as the morning breath of June,
The south-west breezes play;
And through its haze, the winter noon
Seems warm as summer's day.
The snow-plumed Angel of the North
Has dropt his icy spear;
Again the mossy earth looks forth,
Again the streams gush clear."

UNDOUBTEDLY, there is no month in the whole circle more crowded with important duties than that of JUNE. It is the flush and glory of summer. There is a newness and freshness in all things we see that enhances their value, because most new things that are really agreeable, are quite likely to afford us more pleasure than old ones. All the foliage is bright and in high color before the month closes, as there is rarely a drought sufficiently sharp to check the growth of plants so early, or to wilt and discolor the foliage.

A world of pleasant care now lies before the farmer. The seeds which he committed to the earth have germinated and sent up their shoots to the sun and air, and they are now exposed to the depredations of insects. Weeds spring up about them and threaten to overrun or starve them out, and they often need a looser soil, and to have the fine, moist particles brought into closer contact with them.

Success, in all crops that need hoeing, depends greatly upon the efforts of this month. If weeds are allowed to gain the ascendency, in the outset, the labor will be constant, perplexing and exhaustive—the patience of the most patient will be put to a severe test, and the crop will cost much more than if it had been kept clean from the first. The horse and hand cultivator, as well as the common hoe, must be kept in frequent use, so that too much of haying time may not be required to keep the weeds down. Suffering a rank crop of weeds to grow annually is one of the prominent errors of farmers, and more systematic attention should be given to keeping them in proper subjection.

One prolific means of perpetuating weeds is by sowing foul seeds with our grains. It is surprising what quantities of false seeds are brought to market in oats, wheat, barley, and grass seeds. We were not aware of the extent of this evil until we gave some attention to the mode of separating seeds by some of the recently invented machinery. We believe the Legislature of Massachusetts interposed its authority several years since for the destruction of the Canada thistle. By a regulation in France, a farmer may sue his neighbor who neglects to destroy the thistles upon his land at the proper seasons, or may employ people to do so at the other's expense. In Denmark, there is a law to oblige the farmers to root up the corn marigold. A long time ago there was a law in Scotland, under the authority of which a Scottish baron was accustomed to hold courts for the express purpose of fining the farmers in whose growing crops three heads or upwards of that weed were found.

The destruction of weeds ought to be considered one of the most important branches of the agricultural art; for if that is neglected, a crop is often reduced one-fourth or even one-third of a fair average. Let us see what they do:

They prevent the crop from receiving the beneficial influences of the atmosphere.

They exhaust the soil of its moisture and nuritive properties that ought to go to the crop.

They increase the cost of harvesting the crop, and lessen the value of the grain.

They also greatly increase the cost of tending the growing crop.

These are reasons sufficient, brother farmer, why no weeds should be allowed to grow among your crops. We are not sure but some of the transatlantic laws would prove a blessing to farmers here. We are inclined to think that the corn, wheat, barley, and oat crops would be considerably increased, per acre, if no weeds were allowed to grow among them.

Some of the most important items of June work are those of making butter and cheese. This summer, we hope the high prices at which these articles are selling will lead to more care than has usually been observed. A writer pertinently says:

May, June and September are the dairy months. The best butter and the best cheese are usually made in these months. If you are not neat, you do not know how to make cheese or butter. Uncleanliness affects not only the looks, but the quality of butter. Broad, shallow glass pans are the best, but the most expensive. In these milk seldom turns sour in summer thunder storms. Tin pans are good, but unless the dairy woman is scrupulously neat, the seams will be filled with residuum of milk, and become very foul, giving a flavor to each successive panful. The principal requisites for prime butter are good cows, good pasture for them, clean pans, cool, airy cellars, clean churns. Let the cream be churned before it is sour or bitter; and when the butter comes, drive out all the buttermilk.

But *every* labor now is an important one, as no crop can be brought to perfection without giving it proper care at this period. All must be active and systematic, but not to press so urgently as to injure the body or deprive the mind of its needed food from day to day. We cannot better close our brief essay upon June, than in the glowing language of Dr. Beecher:

June! Rest! This is the year's bower. Sit down within it. Wipe from thy brow the toil. The elements are thy servants. The dews bring thee jewels.

The winds bring perfume. The earth shows thee all her treasures. The forest sings to thee. The air is all sweetness, as if the angels of God had gone through it, bearing spices homeward. The storms are but as flocks of mighty birds that spread their wings and sing in the high heavens! Speak to God, now, and say, "O, Father, where art Thou?" And out of every flower, and tree, and silver pool, and twined thicket, a voice will come, "God is in me." The earth cries to the heavens, "God is here." And the heavens cry to the earth, "God is here." The sea claims Him. The land hath Him. His footsteps are upon the deep! He sitteth upon the circle of the earth!

O, sunny joys of the sunny month, yet soft and temperate, how soon will the eager months that come burning from the equator, scorch you!

☞ A cheating grocer should reform his weighs.

SPRING CONCERT.

BY MRS. L. H. SIGOURNEY.

There's a concert, a concert of gladness and glee,
The programme is rich, and the thickets are free,
In a grand, vaulted hall, where there's room and to spare,
With no gas light to eat up the oxygen there.
The musicians excel in their wonderful art,
They have compass of voice, and the gamut by heart;
They have travelled abroad in the winter recess,
And sang to vast crowds with unbounded success,
And now 'tis a favor and privilege rare
Their arrival to hail, and their melodies share.

These exquisite minstrels a fashion have set,
Which they hope you'll comply with and may not regret.
They don't keep late hours, for they've always been told
'Twould injure their voices and make them look old.
They invite you to come if you have a fine ear,
To the garden or grove, their rehearsals to hear;
Their chorus is full ere the sunbeam is born,
Their music the sweetest at breaking of morn—
It was learned at Heaven's gate, with its rapturous lays,
And may teach you, perhaps, its own spirit of praise.

PLANTING AT INTERVALS.

The *Mark Lane Express* has the following upon this subject. Like everything else in farming, a sound judgment must be exercised in this matter. As a general thing, our people plant too close, we think. On rich, moist soils, where the plants reach great luxuriance, there must, of course, be ample room for light and air, in order to secure perfection in the crop. On light, pine plain lands, even though tolerably well manured, the crop will flourish better planted at moderate distances rather than in very wide ones.

The subject of wide intervals between the rows of all sorts of cropping is so extensive that we shall devote a paper to some circumstances bearing upon it. Meanwhile, we record it as our opinion that the drilling of beans at very broad distances, and pursuing a system of tillage between, is not nearly so generally adopted as it might be with very great success. We have seen winter beans in single rows five feet apart yielding fifty imperial bushels per acre; the manuring, of course, being very high, the tillage exceedingly deep, and the hoeing followed up with frequency. And yet there are persons who are sceptical as to the possibility of so few rows being able to contain pods enough for such a magnificent yield.

BONE DUST.

Mr. Cummings, the agricultural editor of the N. Y. *Observer*, says:

When entering upon the cultivation of our present farm, we asked our predecessor what field would give a crop of potatoes without the application of fresh barnyard manure, as we feared the application of such in inducing "the rot." A five-acre field was named. We carefully planted and cultivated it, and found no rot among the potatoes, but the yield of the whole field did not supply the tables of the farm for the year, so exhausted was the land. In the autumn we plowed and sowed the same field with rye, applying twenty-five bushels of bone dust to the acre. Such was the immediate effect of the application, that when

the rye was grown, a man of ordinary stature would be concealed by the crop in walking through the field. Grass seed was sown with the rye. A good crop of hay was taken the first year it was mowed. But the second year, when turf was well established, sixteen tons of hay were taken from the five acres. After mowing it four years, it was plowed and planted to corn, giving a heavy crop without manure. Such is our experience in the use of bone as manure. Bone dust by the quantity costs as to quality from 50 to 70 cents the bushel. Twenty to twenty-five bushels of bone is a good dressing to the acre, and is worth from two to three times the same cost of stable manure brought from the city. Bone dust should be applied to and left as near the surface as may be, and be suitably covered. We usually sow broadcast after the first harrowing. The second course of the harrow will cover near the surface.

SPRING CHICKENS.

Spring chickens are always in active demand from May to September, in the vicinity of all our cities and larger towns. Of course they are profitable to the farmers, and small landholders and cottagers, who breed them. This is a good month to set the hens and hatch them out. For this purpose, a warm henhouse and coops in sunny places are required. Let the eggs be kept in a proper temperature, till the hen is ready to sit on them. Thirteen is the proper number for a clutch of chickens. When hatched, if milk curds can be had, this is their best food. If not, soaked bread for the first few days, and after that, Indian meal well cooked, like mush for your own table. Raw meal, wet up in the usual way, is hard and scouring for their delicate stomachs. When a few weeks old, chopped cabbage, "sives," and other tender vegetables, are to be added, and sour milk is the very best drink they can have.

We would by all means entrust the early spring chickens to woman's care. She seems to possess the necessary instincts—worth all the boys and men in the country. We have known a Scotch, Dutch, or Irish washerwoman's cottage, surrounded by a close wall, alive with early chickens, when the gentleman's and farmer's premises would scarce supply a fowl for the table before September.

Don't keep the "big" breeds for "Spring chickens" either. A close compact, early matured fowl is the thing for this purpose. In most large towns a plump, fat chick, the size of a quail, will sell for as much in May or June as a full grown one will in October; and if they only know you have them, the tavern keepers and pedlars will be after them every day in the week. To the habit these latter people have of confining them in close, filthy coops, for days together, we enter our protest. It is cruel to the chickens. It poisons and defiles the taste of the flesh. It makes them poor. Exercise, good air, and plenty of good food they should have until wanted for the table; and every one who keeps them on hand for immediate use, should be well provided with yard and roosting accomodation. To make chickens edibly perfect, they should come upon the table plump, juicy, and full of their own natural gravy. "Plump as a partridge," is the term which should always be truthfully applied to the early chicken; and if they be not so, half their excellence is lost, while, if in perfection of flesh, they are a positive luxury.—*Agriculturist.*

For the New England Farmer.

REVIEW OF THE WINTER.

MESSRS. EDITORS:—The following are the results of the meteorological records of the past winter at this place. It shows a great contrast when compared with other parts of the country, particularly the Western States, when that venerable gentleman, "the oldest inhabitant," never saw such a winter before.

December, 1863, had a mean temperature of 23-.93°, being 1.43° warmer than the mean for the past 10 years. The amount of rain and melted snow was 3.02 inches, and of snow 8¼ inches. The amount of cloudiness was about 80 per cent. On the 18th, a coat of ice covered everything exposed to the weather. The storm ended with about two inches of snow and ice, making partial sleighing during the rest of the month. Extremes during the month 49° and 1°, having a range of 48°.

January, 1864, had a mean temperature of 24-.23°, being 4.57° warmer than the mean for the past ten years. There have been only three seasons warmer in the past decade. We have had but little cold weather during the month. The 7th was the coldest, with a mean temperature of 3° below zero. In the morning the mercury stood at 11° below zero, during the day it was 1° above, and at night it sank below again. The next morning it was below zero. Aside from these two days we have had no severe cold weather during the month. Extreme range of the thermometer during the month 11° below and 46° above zero, making a total of 57°. The amount of rain and melted snow was 2.04, and of snow 8 inches. The amount of cloudiness was about 77 per cent. The month was ushered in with a tempest and light rain. There were but a few days of good sleighing during the month, which was made by a little snow on the coat of ice formed in December.

February had a mean temperature of 27.03°, being 5.30° above the mean of 11 years. It was the warmest February in the past 11 years, except 1853 and 1857. The amount of rain and melted snow was 0.92; depth of snow 5¾ inches, greatest amount of snow on the ground at any one time 3 inches. Lowest mean temperature 7° below zero. Extremes 21° below zero, which was the lowest extreme during the winter, and 46° above, making a range of 67°. Amount of cloudiness 77 per cent. There was a high wind on the first day, and a rough squall on the 14th between 4 and 6 P.M. No sleighing during the month.

March had a mean temperature of 32.53°, being 4.08° above the mean of 11 years, and was the warmest March in the time, except the years of 1859 and 1860. The amount of rain and melted snow was 3.22 inches; depth of snow 16½ inches. The greatest snow storm of the season was on the 7th and 8th days, when 13½ inches of snow fell. The roads were muddy, consequently the snow made but poor sleighing and lasted only a few days. The extremes of temperature were 8° and 60°, making a range of 52°. Amount of cloudiness 67 per cent. Whole amount of snow during the winter 38½ inches, and of rain and melted snow 9.20 inches.

D. BUCKLAND,

Brandon, Vt., April 11, 1864.

MEALY POTATOES ALL SUMMER.

We have always found it somewhat difficult to keep potatoes in a crisp, mealy condition after warm weather comes on. Vegetables, like animals, feel the force of nature when the particular season arrives for them to act, in order to perpetuate their kind. Put it where you will, in the dark or in the light, if the potato has a little warmth and moisture, it will send out its bud and shoot and the root will follow if it can find but a little dust on the floor or rock to cling to. The potato then undergoes an important change, the sprouts start, and it becomes a waxy, watery thing, hardly fit to eat.

The following mode of preserving them in good condition has been described by Dr. J. M. Wilson as practiced in Scotland. The experiment is so cheap and easy, that we presume many persons will test it this spring. It is as follows:

Diluted ammoniacal water in the proportion of an ounce of the liquor of ammonia of the druggists to a pint of river or rain water, has of late years been successfully employed for checking the vegetative power of potatoes, and prolonging their suitableness for food. Potatoes immersed four or five days in this liquid, retain all their edible properties unimpaired for a twelvemonth, improved in flavor and mealiness. The effect of the liquor is to consolidate their substance and extract their moisture. After immersion, the potatoes should be spread so as to dry, and will then keep good for ten months; contributing in this way not only to the comfort of families, but also to the health of mariners exposed to long voyages at sea.

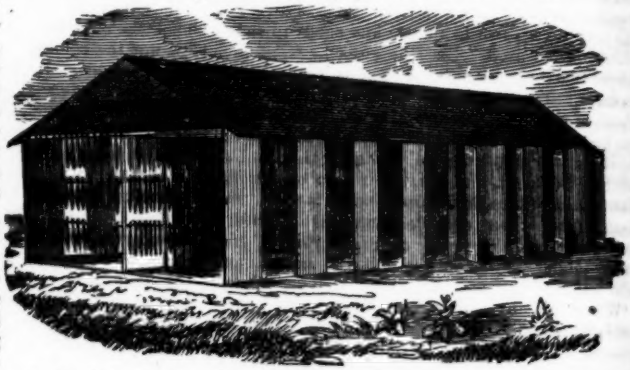
GRAY HAIR.—The change of the hair which we are wont to call "turning gray" is probably, when it does not come prematurely, as natural as any of the changes effected by age, and is neither to be avoided or regretted. In some the change takes place much earlier than in others, and is often hastened by disease and by mental and moral causes; but sooner or later it comes to all, to the healthy as well as the diseased. Grayness is not a diseased condition of the hair, for it continues to grow as luxuriantly, and to be as moist, sleek and glossy after the change as before; in fact, it often grows thicker and stronger. The term gray hair is not strictly proper, since grayness comes from the mixture of the white or colorless hairs with those of the original color. In general the individual hair which we call gray is wholly colorless.

CULTURE OF TOBACCO.

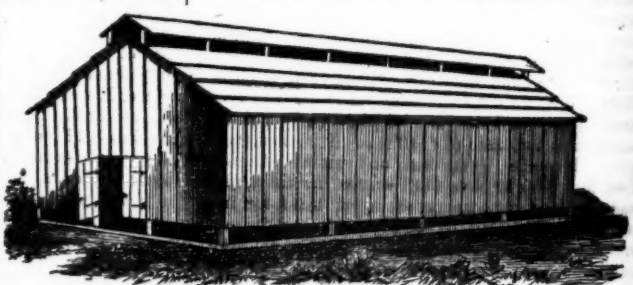
Drying Houses.

We gave, in a recent number of the FARMER, some directions for the cultivation of Tobacco, leaving the subject with the time of harvesting the crop. A very important part of the Tobacco grower's labor and care comes after the crop has been gathered. The process of curing the plant and preparing it for the market is one which requires skill and care, and a little negligence or ignorance at this time may go far towards spoiling the whole season's labor.

A shiftless farmer may let his corn stand till very late in the fall, and the hard grain and the dry stalk will suffer but little from storm and wind. He may let his hay remain out through two or three heavy summer showers, and still coax his half-starved cattle to eat it during the winter months. But the man who would be successful in raising tobacco must pay constant attention to his crop, from the time the seed is put in until the plant is thoroughly cured for the market.

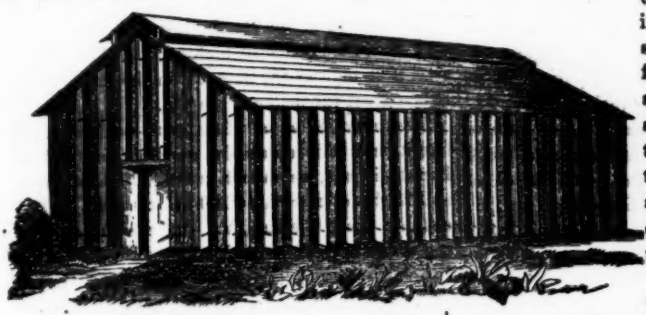


The cut which we first present shows a very common style of drying house. One end and sections of part of the side are removed, to show the manner of hanging the plants to dry. The remainder of the side shows the real construction of the building. The boards run from sill to plate, and every third one is hung on strip hinges so as to be readily opened for the admission of air.



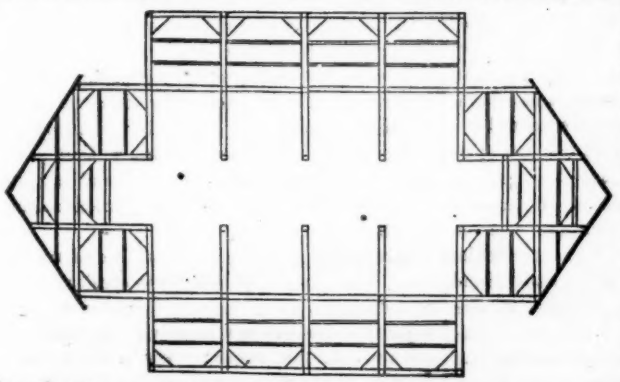
Our second illustration shows another form of securing ventilation. The boards all round do

not reach to the sill by a space of about two feet, and a portion of the roof is raised and left open at the side, so as to secure a constant change of air within the barn.



The next illustration shows an improved plan, which combines the features of the other two; the openings at the sides, extending the whole height of the barn to the eaves, and the raised roof. Of course care must be taken in making this roof to construct it so that water will not drive in during rain. The advantages of this construction are that the amount of ventilation can be easily regulated, neither allowing the tobacco to dry too rapidly, as it might do from the direct action of the sun and light, nor to absorb moisture from the atmosphere, as it would do in a time of continued humidity, endangering its loss from mildew.

The plan shows the frame-work of a barn sixty by thirty-nine feet, which would probably be large enough for the crop of about four acres. The specification for the quantity of lumber required for such a building, including the poles for hanging the drying plants, show that it takes nearly 22,250 feet, two-thirds of which is included in the timber for the frames and the poles.



That Tobacco is a profitable crop, there is no question. Unless the taste of the world changes very materially, there is no danger of the demand ceasing, and we believe that the well tilled land of New England, and the thrift of her farmers, offer a better prospect of a remunerating crop, than the worn out soil of Virginia, with careless cultivation. Still we should look long at the profit side, before we could ignore that silent monitor within, which would constantly remind us that the fruit of our labor was but smoke and ashes at the last, and that man was neither sustained nor strengthened thereby. But our scruples are individual, and we do not expect to convert the world to our side.

We again acknowledge our indebtedness to Mr. Wm. L. Bradley, of 24 Broad St., for the use of the cuts we have given, and refer all who wish further information on the subject to his "*Tobacco Grower's Manual*," which can be obtained by sending to him as above. *Of course*, no farmer would do so without enclosing a stamp to pay the return postage.

THE New York Sunday School Union have commissioned four female missionaries for permanent service in missionary labor in the city. These missionaries will donate their time in family visitation, Bible reading and distribution of tracts and Bibles, and gathering the children into Sabbath Schools and the adults into church. It is the design of the Society to employ female missionaries so systematically and numerous, as to reach every family, and bring the young under Bible instruction.

EARS OF THE HORSE.—It is a good sign for a horse to carry one ear forward and the other backward, when on a journey, because this stretching of the ears in contrary directions shows that he is attentive to everything that is taking place around him; and while he is going he cannot be much fatigued, or likely soon to become so. Few horses sleep without pointing their ears as above, that they may receive notice of the approach of objects in every direction. "When horses or mules," says Dr. Arnott, "march in company at night, those in front direct their ears forward, those in the rear direct them back, those in the centre turn them laterally or across; the whole troop seeming thus to be actuated by one feeling, which watches the general safety!"

THE good fortune of the bad bows their heads down to the earth; the bad fortune of the good turns their faces up to heaven.

CULTURE OF ROOTS.

The attention of the reader is called to an article in another column on "Root Crops." Those who are making arrangements for a dairy business, especially, will find it advantageous to look thoroughly into the matter of raising roots as a part of the feed for their milch cows. Experience has convinced us of their great utility for this purpose. Our crop of roots of various kinds has sometimes amounted to fifteen hundred bushels in a season, which have been fed to horses, milch and dry cows, hens and swine,—and to all of them in a raw state excepting the latter.

Their effect upon horses was to keep the hair soft and glossy, and they took the place of grain, entirely, unless in cases where the animals were worked daily. With the dry cows, they saved considerable hay, and at the same time kept the appetite good, and the general condition of the animal excellent. The effect upon the milch cows was to increase the flow of milk and add to its richness, which will be found a matter worthy of consideration at the prices which butter is likely to bring for some time to come. In feeding them to swine, they were boiled, salted, and mixed with corn meal, and several kinds of roots included in the same mess. But perhaps no better use was made of them than feeding them to poultry. Twenty-five fowls will eat one large mangold weighing two or three pounds, daily, if the top is cut off and the remainder made fast so that it will not move about when they peck it off.

The mangold may be raised very cheaply. The soil can be mostly prepared with the plow and harrow, after the first weeding and thinning by some of the improved implements which the genius of the mechanic has provided for us. They should be planted in rows two and a half feet apart at least, so that the rough part of the cultivation may be done with the horse and cultivator, until the leaves have extended so as to be in the way. The plants should stand one foot apart in the rows, if it is desired to have them grow to a large size,—if not, eight inches will answer. Follow the horse cultivator with the common wheel hoe, or what is better than any other implement we have ever seen, "Harrington's Hand Cultivator." A man will soon run over an acre with this Cultivator, and leave it in a most complete and beautiful finish. It is light, durable, and efficient. It is easy to work with, as the person using it stoops very little as he passes along.

The next root crop which we should recommend as prolific and easy of culture would be the *blood turnip beet.* It is thought by those who have cultivated this root quite largely that it will yield as many pounds per acre as the mangold. It is hardy, not particularly subject to attacks by worms or insects, and when produced is nutritious and highly relished by all the farm stock. In addition to this, if they grow fair, and of regular size, they are as profitable a crop for the market as any that the farmer takes there.

The culture of the *Swedes turnip* is more common and more generally understood. We do not rank it so high as the mangold or the turnip beet. It is a great exhauster of the soil.

The *carrot* is an excellent root,—all the stock like it, and it is especially excellent for horses. For their use, we should prefer 75 lbs. of grain and 25 lbs. of carrots, to 100 lbs. of grain. They not only keep the hair, but the *eyes bright,* and the whole system in excellent condition.

As an offset to the extra amount of labor required to cultivate an acre in roots, the farmer must look at the great increase in value which he receives from that acre over his best crops of English hay. There is, also, another important point to be considered, as it is not the amount of nutriment, alone, that is required. Upon our tables we use a *variety of food,* and consider it essential to health, and it certainly gratifies the palate. Is it not reasonable that the lower animals enjoy variety as well? This variety may not afford more nutriment than as many pounds of hay or grain, and yet be far more serviceable to the animal.

We are quite confident that our farmers can raise and use more root crops than they do, and find it profitable.

SWINE AND MANURE.

It is for the interest of the farmer to raise his own pork, as well as other meats. We believe this should be laid down as a general rule, by a large majority of farmers, not only to raise their own pork and all other meats, but just so far as is possible, everything of the eatable kind that is required for his own use. This course furnishes the table at once, and seasonably, with a supply of fresh and wholesome articles, without going through the long mercantile process of carrying to market, selling and purchasing, or exchanging for what is wanted.

This point, however, is only an incidental one now. Our present purpose is to speak of *swine* as *manufacturers* of manure. The views of a majority of farmers are directly in opposition to our own, in this respect. We prefer to keep swine for the pork they will yield, and not for the work they will perform on the manure heap. We like those medium sized, compact, symmetrical breeds, that will take on flesh and fat rapidly, compared with the amount of food they eat; hogs that are of a quiet disposition, and that, when they have filled themselves, will lie down and sleep, and grow lustily. Others say,—"the

leaner kinds are workers, and, when the manufacture of manure is an object, the working animal, although he may not fat so readily or on so small a quantity of food, will, in the end, prove the most profitable. They, therefore, have no objection to those long-snouted, raw-boned fellows, that are capable of turning a furrow like an old-fashioned plow, and which are as restless and as adverse to sleep in the daytime as a witch is said to be in the moonlight of a night in autumn. By selecting animals of this description, and providing them with plenty of food and materials, they will not only furnish us with a most valuable article of manure, but they will also fill the meat barrels with good and profitable pork."

We do not believe the doctrine, or practice its teachings. It is not economical, or consistent with other practices of the farm. The farmer who half starves his long-legged, raw-boned racer in order to make him work over the manure, does not act upon the same principle with his oxen that he is fatting for the shambles, or his own beef barrel. By no means. He supplies every means of comfort for them in his power. Gives them a dry bed, an agreeable temperature, a variety of nutritious food, and *just enough exercise in the open air* to make their blood flow briskly through their veins. And this is the true course, both with cattle and swine.

Well fed hogs may go upon the common manure heap with perfect propriety. They will turn it over somewhat, but no more than is sufficient to give them a healthful exercise. They should have ample room, *access to the sun*, a perfectly dry bed to go to when they please, and one that can be made dark in hot weather, so that they may escape the annoyance of flies. They should then be supplied, during the whole growing season, with an abundance of fresh, succulent vegetables, both for their own use, to absorb their droppings, and to increase the mass of manure. Sods, swamp muck, forest scrapings, leaves, chip manure, brakes, flags, ferns, weeds, &c., together with every species of spurious or refuse vegetation, should be gathered and thrown to the animals, a little at a time, to feed from and root over as much as they feel inclined to do, after having received two or three hearty meals each day.

The matter formed by the decomposition of these substances, together with the solid excrements of the animals, and the saline and earthy matters contained in the liquid voidings, will constitute one of the most valuable manures that can be applied to the soil, and will produce excellent effects on all descriptions of crops, whether of roots or grains. This mass will, of course, need an occasional turning over, but a man with a good fork, will do more of it in one hour of each week than the lean hog will in seven days. We let the hog, therefore, exercise as much as his instincts prompt him to in order to preserve health, and sleep away most of the time in the warm sun's rays in cold weather, or in his retired and cool bedroom in the hot days and nights.

During the first six months of his life, he should not be fed to fatness, but with a variety of flesh making food, such as skim milk, vegetables, roots, and plenty of short, fresh grass, cut when not more than an inch or two high, and fed a little of it several times a day through the entire summer. In the cooler weather of October and November, corn and corn meal may be given him, and for six weeks before slaughtering as much of the latter, slightly salted, daily, as he will eat, together with as much pure cold water as he will drink, once each day.

The pork of such a hog, if properly dressed, salted and preserved, will be as sweet as any nut that was ever cracked, and in our opinion, as wholesome and nutritions as beef or any other flesh.

NEW BOOKS.

THE ILLUSTRATED HORSE MANAGEMENT, Containing descriptive remarks upon Anatomy, Medicine, Shoeing, Teeth, Food, Vices, Stables; likewise a plain account of the Situation, Nature and Value of various Points, together with comments on Grooms, Dealers, Breeders, Breakers and Trainers; also on Carriages and Harness. Embellished with more than 400 Engravings, from Original Designs made expressly for this work. By EDWARD MAYHEW, M. R. C. V. S., author of the "Illustrated Horse Doctor," and other works. Philadelphia: J. B. Lippincott & Co.; 1864.; Boston: A. Williams & Co.

We yield to few persons in our regard and attachment to the horse. He is one of the most useful servants of man, and, properly treated, is one of the most profitable among them all. The reader of these columns cannot have failed to notice the numerous references we have made during the past year to "*Mayhew's Illustrated Horse Doctor*," and the engravings given, illustrating some of the diseases and malformations of the horse. We consider this the best work extant upon the diseases of the horse. We now have before us another work by the same author upon the management of the horse, and a careful examination of it brings us to the opinion we formed of the former volume, that this, also, is the best work in our knowledge, upon the subjects of which it treats. It is a much needed one, too. It tells all about the proper and improper management of the horse under all circumstances,—about the structure and economy of the animal, his shoes, his food, his stable, his breeding, breaking and training. The chapter on "Points," and where to look for their development, is worth the price of the volume.

Dr. Mayhew has probably had as much actual experience and observation of the horse as any person that lives. This is exhibited on every page of his book. His humanity and kind consideration of the animal are as manifest, also, as the grea

intelligence with which he treats his subject. This we consider one of the prime excellencies of the work. Every feeling person must read his works upon the horse with pain, when he learns how cruelly he is often used, but with admiration, also, for the humane and noble sentiments everywhere expressed in his pages by the author. We hope the work will fall into the hands of a million of horse-owners, and that they will read, ponder and "inwardly digest" the excellent suggestions contained in it.

For the New England Farmer.

ROOT CROPS.

The season is at hand when every judicious husbandman begins to look over his plowed fields for the purpose of ascertaining their adaptedness to different crops, with a desire to appropriate to each such a growth as will not only bring a remunerative return for the labor invested, and leave the soil in an improved condition, but also affect favorably the general interests of the farm. At this season, a word of encouragement in regard to the cultivation of *roots* will not be out of place, and may awaken an interest in the subject which will materially affect the aggregate number of bushels to be harvested the coming autumn.

In the spring of 1855, Solon Robinson wrote an article for the New York *Tribune*, entitled "Plant one acre more," in which he reminded the farmers of the high price of breadstuffs, and of the multitudes in large cities who suffered from the scarcity of provisions, and urged the importance of putting in as much grain as could possibly be attended to. It was estimated that his simple request increased the crops of the United States *one million of acres*. At the present prices of labor it may not be expedient to plant an acre *more*, but it is an important point to ascertain how to plant the ground we have so as to increase the value of our crops.

In 1843, Daniel Webster asserted that the cultivation of the turnip within the last fifty years had revolutionized English Agriculture. It had trebled the number of bullocks and sheep, and he had no doubt it would produce a similar result in this country. The opinion has been expressed in this this paper, that by proper attention to the cultivation of roots, the capacity of the farms of New England for keeping stock may be doubled. If this is true, which no one has attempted to deny, the subject deserves more attention than has yet been given to it. That roots are a valuable food for dairy stock no one doubts who has made a trial of them. A careful study of the tables of experiments published in the "Agriculture of Massachusetts," in 1858, will be profitable to any who are skeptical upon this subject. A horse that is driven on the road will thrive better on five quarts of meal and three quarts of carrots than on eight quarts of meal. Every fifty bushels of carrots fed in this way supplies the place of fifty bushels of corn, and can be grown or bought at one-fourth the cost.

In the "Agriculture of Massachusetts" for 1853, (page 223,) the reader will find a tabular statement of twenty crops of carrots raised in Worcester County, and entered for premium from 1846 to 1853 inclusive, giving the name of each grower, number of rods planted by each, cost and yield. It appears that the average yield was 2066 tons per acre. It is not expected that every farmer will secure a premium crop, but ordinary pains will secure six hundred bushels to the acre, and this will highly pay the cost of cultivation. Most people magnify the labor attending the cultivation of roots, having had no experience, except with the little garden bed which was permitted to mat itself over with weeds before any effort was made to subdue them, and then after one spasmodic effort which resulted in destroying more carrots than weeds, it was given over, and weeds and vegetables struggled hard for the championship. "A stitch in time saves nine."

A neighbor of mine has sold one hundred bushels of French turnips at fifty cents per bushel the past winter. It has been practically demonstrated that, at ordinary prices of labor, turnips can be raised at from twelve to fifteen cents per bushel. Dr. Loring, of Salem, raises 1600 bushels of mangold wurtzel per acre, and at the present prices of meal and scraps, it becomes every farmer who indulges in the luxury of keeping swine to inquire if this root properly cooked cannot be substituted, in part, for more expensive food.

It has been objected that roots leave the soil in bad condition; but every one knows that no crop pulverizes the soil more perfectly than roots, and the heavy hay crops, which have been taken from ground upon which carrots have been previously cultivated, are sufficient evidence that roots improve rather than impoverish the soil. As to the effect of these crops on the general interests of the farm, it is only necessary to add that any system of husbandry that increases the stock on the farm, is sure to increase its fertility.

If the enterprising farmers of this section, who are selling butter at fifty cents per pound, and are anxious to make much more than they now do, would enter into this matter with half the zeal with which the farmers of the Connecticut Valley are engaging in the cultivation of tobacco, I am of the opinion they would reap a more satisfactory harvest, and deserve a higher place in the memory of those who are to come after. VIATOR.

Hopkinton, April, 1864.

PLANT PEAS DEEP.

In an article recently written on the culture of early peas, we recommended that they be planted deep, say as low as four to six inches. We find the following in confirmation of these views:

The theory recently advocated of planting peas very deeply in the earth, in order to prolong the bearing capacity of the vines, has also been well tested and found to be correct. A farmer told me that he ploughed a furrow beam deep; then scattered the seed peas at the bottom after which he turned a deep furrow upon them with his plough, covering them, if possible, to the depth of twelve or fourteen inches. They pushed their way up through the thick mass of earth very soon, and, instead of turning yellow at the bottom and dying after the first gathering, they blossomed and bore until he was tired of picking the pods. If such a result will uniformly be realized from the plan, pea culture may be more profitable than hitherto.

CLOVER HAY FOR HORSES.

We have long urged upon the farmers of New England the importance of raising more clover hay, not only for milch cows and sheep, but for horses also. We have spoken of its nutritive properties compared with other hay, and of the fondness which cattle and sheep and horses always evince for it, and have urged that its highly nutritive qualities and this decided preference ought to be sufficient reasons to induce farmers to cultivate it more extensively.

It is at present *unfashionable* to use clover for horses in city stables, and it is, therefore, unmarketable. But there is a reason for this, in the quality of the clover hay which has too often been presented in the market for sale. It is either greatly damaged or spoiled in curing it. No other hay is injured so rapidly, or so essentially, by neglect and exposure while making it, as clover. It has broad leaves and bulky, juicy stems, so that the plant is succulent and heavy, and when cut soon becomes quite compact. While in this condition it will quickly heat and induce the fermentative process, when its nutritive qualities are rapidly changed and lost as food for animals. At this period it is thrown open, perhaps, and dried, but its fresh, green look has gone, its sweetness departed, most of the leaves have fallen off, and it is little but a mass of blackened, dusty fibre, and just such as should be rejected by both man and beast. No wonder that stable-keepers refuse to purchase such stuff as fodder for their horses.

If a few tons of well-cured clover hay were brought into market and two or three leading stable-keepers should use it, we have no doubt but the demand would be quick for it afterward. It is not, however, we must confess, so well adapted for transportation as timothy and red top, because its leaves are so liable to be broken off in carriage. Our remarks are suggested, mainly, to the farmer who desires to feed his stock upon the most profitable varieties of hay in his own barn, —and this we consider to be well cured clover hay.

Some object to it that it runs out too quickly—that they can get only a single crop from a sowing, and that this is too expensive. This is certainly apt to be the case if the crop that succeeds the first cutting, what is called the aftermath, or second crop, is allowed to go to seed. Those plants that go to seed, having performed their office, that of perpetuation, will not start up again, while those that *do not go to seed* will continue to flourish two or three years, and produce heavy crops.

In this course, the cost of plowing and reseeding is largely more than paid for in the exuberant crops, and in the decided value of the clover roots which are left in the soil. It is thought that a somewhat thin and poor soil may be permanently fertilized by this course, with only trifling aid from barn manures to start with. If such is the fact, it affords another substantial reason why our farmers should considerably extend their fields of clover.

We hope our correspondents will give their views upon this subject, especially now, when so many persons have engaged in sheep husbandry. The subject is worthy of close attention by all cultivators of grasses. An article on another page, on this subject, will well repay perusal.

EXTRACTS AND REPLIES.

On Pulling Stumps.

I have a lot of stumps in a swamp, to remove, and wish to get them out of the way with as little expense as possible. Will some of your correspondents, who may have worked pulling at stumps, or are acquainted with the business in any way, please give, through the columns of the *Farmer*, a description of the manner in which it is done, and what kind of machines or other power they use?

Any information in regard to the above will be received with pleasure by A SUBSCRIBER.

In the *Farmer* of April 16, "A Subscriber" says he has a lot of stumps in a swamp, and wants some one acquainted with the business to tell him how to get them out. I have that experience, and have quite a story to tell in the *Farmer* some day, but have not time to shape it now. But I can safely say to "A Subscriber," that it will be money in his pocket, (if he does not live at too great a distance,) to take the Old Colony cars, which stop near my door, and see me and my swamp. He can see stumps enough pulled, and what pulls them, and get a large experience very quick, free gratis. CALEB BATES.

Kingston, Mass., April 19, 1864.

REMARKS.—We know Mr. Bates very well, and have seen the stump-puller to which he refers, in operation. He has given "A Subscriber" an invitation which we hope he will accept, as seeing for himself will be more satisfactory than any suggestions can be. Mr. Bates is one of our practical, progressive farmers, who always looks into the causes of things, as far as his opportunities will allow him to.

Sicilian Fowls.

In your last letter you wished me to give you a description of the Sicilian Fowls that I have.

In May, 1861, I received the eggs of the above-named fowls, from Mr. Wilson, of Cohasset, Mass., who imported them in the fall of 1860. You wish me to give you a statement of the product of these fowls, but this I am not able to state, as I have not kept my account of the amount of eggs laid from five or ten hens, as I have kept them with my other varieties of fowls until I select them in the spring, for breeding.

I have the White and Speckled Leghorn fowls, which are considered by good judges to be the best, or as good as there are in the country; but I have tested the same number of the Sicilian fowls with the Leghorn, for three months, and the Sicilian fowls laid ten dozen eggs to the Leghorn 8 dozen.

The Sicilian fowl is a very beautiful bird, about the size of the black Spanish fowl, and their color quite near that of a woodcock or snipe; comb and wattles very large, and a large white spot about the ear, similar to that of the white Leghorn fowls.

I think these fowls deserve the highest attention among our poultry breeders. The flesh of the Sicilian fowls is very juicy and of excellent flavor and is much admired by those who have used them for the

table. They were last year tested in the New Haven henneries, and were highly recommended for their laying qualities. JAMES M. CLARK.

Chester, Ct., April 18, 1864.

REMARKS.—We have never seen the Sicilian fowls, and can find no account of them in the books. Our correspondent's account of them is very favorable.

Stretches in Sheep.

I wish to inquire through your paper, of Mr. H. P. GALE, of Washington, Vt., what his medicine is for the scours and stretches in sheep? Mine is, for the stretches, one table spoonful of castor oil mixed with ½ pint of warm milk. Turn down out of a bottle. It seldom fails. If there is any better medicine I should like to know it. The scours I never have had in my flock. C. F. LINCOLN.

Woodstock, Vt., April, 1864.

Reducing Bones---Snow---Sheep.

I should like to have you inform me through the medium of the *N. E. Farmer* how I can prepare several hundred pounds of bones that I have on hand, for a fertilizer, and how long a time it will take. What are they worth per hundred to sell, and where can they be sold at the best advantage?

We have just had the most severe snow storm of the season; there has not been so much snow on the ground before, at any time this winter. Our people are making lots of maple sugar.

Farmers in this section are losing lots of sheep this spring; they came to the barn very poor. On account of the severe rains of last fall, much of the hay was cut late the last season, making it very poor feed for stock. N. W. HARDY.

Nelson, N. H., April 14, 1864.

REMARKS.—The cheapest and easiest way for the farmer to dissolve the bones he collects, is to boil them in strong ley. It will require three or four hours' boiling, probably, to soften them so that they can be reduced to a paste. The alkali in which they are boiled being a good fertilizer, the whole mass will make a manure that can scarcely be excelled.

We are informed that manufacturers are paying from $20 to $25 per ton for whole bones.

USE OF POULTRY MANURE.

MESSRS. EDITORS:—I send you my way of preparing and using hen manure on corn.

I have been in the habit for several years of getting together all the clear manure from the hen roost that I could, and a few days before planting, (say three to six,) mix an equal quantity of wood ashes and about half as much plaster thoroughly together, wetting enough to moisten the whole. When my ground is ready marked both ways, drop a small handful to each hill, or one large handful for two, planting the corn as soon as may be, after dividing the compost with a slight motion of the hoe, before dropping the corn and covering up with good mellow dirt.

Wetting the compost helps much to pulverize hen manure, and insure the corn immediately, which it would not be likely to do until after a rain if planted in its dry state.

I have never tested by actual experiment the increase of crop, but am well satisfied that I get enough more corn to keep my hens during the winter and spring, (give them all they will eat,) besides lots of pumpkins in the bargain.

Perhaps something else would do better in the place of ashes. I think I shall try some with muck this year, and note the difference, if any, in the yield.—A SMALL FARMER, *in Country Gentleman.*

EFFECT OF COLD WEATHER ON THE SEPARATION OF CREAM.

Judging from the management of the dairies of many of our farmers, and also in many of the larger ones, where the butter is the chief object, the managers seem little to understand the effect of a low temperature upon the rising of the cream, or at least they do not arrange their milk so as to obtain the greatest amount of cream. There are several conditions which do much to modify the quantity of cream which may be derived from any given quantity of milk; the fatty matter which afterward composes the butter is held in suspension by the water of the milk, and hence, when standing in the udder of the cow, the best and most rich portions rise to the surface, and consequently are last drawn. By the common mode of milking, the poor and richer portions of the milk become mixed together, and the separation of the cream is made far more difficult and slow. In most of the large English dairies, and in some of the best ordered in this country, it is the rule to divide each cow's milk into two portions at the time of milking, and these two portions are kept entirely separate until the cream is all raised, when it is sometimes mixed, but oftener kept separate altogether. In some of the large dairies of Devonshire, each milker has three buckets, and divides each cow's milk into three portions, which, with their cream, are kept entirely separate. It has been stated by eminent English dairymen that if the first two-thirds of the cow's milk is kept separate from the remainder, at least ten per cent. more cream may be obtained. Those who make butter can calculate whether this will pay for the extra labor which is incurred.

Another mistake very often made is that of putting too much milk in the pans; experiment has proven that if we take two equal quantities of milk and place one in pans to the depth of six inches, and the other to the depth of only two and one-half inches, the latter will yield from seven to eight per cent. more cream than the former. This is the case more particularly in cold and damp weather, and at this time the mistake is most commonly committed.

The temperature of the surrounding air has also a great effect upon the time required for the raising of all the cream; experiment has demonstrated that the process is more rapid in warm than in cold weather. With the thermometer at

80	degrees,	all	the cream will raise in	10	hours.
77	"	"	"	12	"
68	"	"	"	18	"
55	"	"	"	24	"
50	"	"	"	36	"
45	"	"	"	42	"

Sprengel found that if the milk was kept at a temperature as low as 37°, but little cream would raise in three weeks.

In order to avoid the trouble of keeping the cream at the proper temperature, it is customary in some dairies to churn the whole milk. The advantages claimed by those who follow this plan may be briefly stated thus: The proper temperature can be readily obtained both in summer and in winter; five per cent. more butter can be obtained from the same milk; the butter is not only of the best quality while fresh, but if properly managed, will keep much better.

This plan would not work so well in the neighborhood of a good market for skim milk, but when cheese is an object there would be little or no

difference, for the buttermilk will make as good a cheese as skim milk.

In summer it is difficult to reduce the temperature of the cream as low as 55°, but the whole milk need only be reduced to 65°, to which most cellars, without any difficulty, reduce it.

In Brittany, the milk of the previous evening is mixed with the morning's milk, and after standing a few hours, the whole is churned, and is said to produce a larger amount of butter, of a better quality, and will keep longer.—DAIRYMAN, *in Germantown Telegraph.*

CLOVER HAY FOR HORSES.

Dr. McClure is one of the leading veterinary surgeons of Philadelphia, and, we may add, of the United States. His opinion, therefore, on any matter connected with the food and health of the horse can be quoted with confidence. In a recent article in the *Culturist* he advocates the feeding of clover hay to horses, and thinks it would prevent a disease now prevailing among the horses of this city, during which they will not eat timothy hay; so little of it being brought to market. He then proceeds to say:

Why is this the case? Simply because there is a prejudice existing among all classes of horsemen, and from them communicated to the owners of horses, against feeding this kind of hay. First, because it is said that clover hay produces heaves, and secondly, because it is said that it is not respectable to be seen feeding with clover hay, as it looks parsimonious. These opinions concerning this article are so widely and firmly fixed in the mind of almost every groom and stableman, as well as horse owner in Philhaelphia, that I believe it has been the cause why most farmers are not found giving clover cultivation to the extent it ought to be, or as its superiority as an article of provender demands. Let us now examine in brief, the objections that are laid against it. It is said it will produce heaves in horses. The idea is as false as it is preposterous. If broken wind is produced by an article of food, it certainly is not from food, but from the quantity given. In like manner, heaves may be caused by a too great quantity of water, oats, or any kind of hay whatever, given at an improper time, as when the animal has a journey to perform. In a word, it is the person's fault in giving too much food at an improper time, and not the character of the food that thus produces heaves in the horse. The man, who, when feeding a horse, would fill its manger with oats and corn, would not be considered a very fit man to feed and care for horses, neither is that man who would fill a large rack full of clover hay; as the animal will not stop eating until it has hurt itself; as every horse is fond of it, and, as before stated, sick horses will eat it when they will not eat anything else. Without another word, the argument is complete.

For argument's sake, let us see what there is in the other objections of clover hay. It savors meanness. Does this opinion arise from the idea that the queenly cow eats and feeds upon it in all our large cities? How much inferior is she to the horse, and which adds most to our domestic happiness as well as health? Is it mean to purchase for horse feed, hay which is superior to any other, and sold forty cents to half a dollar less than the best kinds reported in the market? Or, is it a generosity in the deportment or character of any man, to feed his horses upon that which the animals do not seem to relish, trample a large portion of it under their feet, to be carried thence to the dung hill, when another article superior to it, in point of nutriment, and costing from forty to fifty per cent., less may be obtained?

The whole may be summed up in a few words, as follows:

Good clover hay contains forty-five per cent. more fattening matter than timothy hay, and about forty per cent. more than the English rye-grass hay; about ten per cent. less than dried lupins or vetches which are extensively used in Europe for the feeding of both horses and cattle, and which are second only to the *Trifolium hybridum* or *Alsike* clover, so named from a district in Sweden called Alsike. Alsike clover contains the properties of both the red and white clover, and was first introduced into Great Britain about 1854. This variety of clover has for the last few years engaged the attention of agriculturists in Scotland and various parts of England to a great extent. Its reputation is now so firmly established, that more of it has been sown the last year than ever before. It is said by many agriculturists that animals will leave any other grass or clover to feed on the Alsike, and they say farther that the more it becomes known the greater will be its cultivation.

We may add to the foregoing that thirty years ago farmers never raised timothy for their own use, and upon many farms, even within reach of the Philadelphia market, not a pound of timothy hay was produced. Farmers fed clover exclusively to their horses, with cut straw and shipstuff, and moderately with whole corn. These horses were put to all kinds of work, were ridden and driven at all times; and we venture to say, backed by our recollection, that the horse at that period was not subjected to one-half the diseases that it is now. The truth is we will have to go back to clover, probably of the new variety named, to a considerable extent.—*Germantown Telegraph.*

SALSIFY, OR VEGETABLE OYSTER.

This vegetable has never been extensively cultivated in this country, although it is more frequently met with now than formerly. In its general habits and modes of growth, it resembles the parsnip, though the roots are much smaller, and the yield of course less. It requires a deep, rich and rather warm soil, and should be sown early to secure a good crop. As soon as the plants are fairly up, they should be weeded, and the ground kept clean and light by frequent applications of the hoe. The best manure is that from the hogsty, or stable dung, well decomposed.

This vegetable derives its name from the near resemblance it has, in taste, to the oyster. It is a wholesome edible, and is greatly admired by those who have acquired a taste for it. On suitable soil, it yields well, and so far as our experience enables us to judge, is very little subject to injury from attacks of insects or vermin of any kind. The second year the plants flower, and the seeds may be gathered by hand as they ripen.

A NEW FANNING MILL.---ADAMS' PATENT.

Perhaps no one thing has so operated to increase the hard labor of the farmer, and to perpetuate it, as the universal prevalence and immense multiplication of weeds. That labor is like the toil to which Sisyphus was doomed by the gods for betraying some of their plans,—to roll a huge block of marble up a hill, the moment it reached the top it would roll back again, and thus he was tormented by this incessant and never-ending toil. So it is with the farmer and the weeds. He has contrived to sow foul seeds with his grains, and is then tormented with weeding the crop, while his neighbor neglects to weed, and raises a luxuriant growth, to send its seeds over all the adjoining lands!

Now, however, through the genius of the mechanic, a way has been devised to prevent this wide-spread mischief. *Adams' Patent Fanning Mill* will separate all the various seeds, if the farmer will but press it into his service. We have seen nearly all kinds of seeds, large and small, together with sand, dust, bits of straw and other foul stuff mixed and thrown into the hopper, and in a few minutes all *separately* returned. It cleanses all impurities from wheat, rye, oats, barley, flax seed, millet, rice, coffee, timothy, clover, hemp, canary, garden seeds, mustard, &c. A merchant sent Mr. Adams 611 pounds of gum Arabic, from which he took 27 pounds of sand, probably from the desert, which must have been blown through the sacks while undergoing transportation. It was almost as fine as flour. Out of 16 tons of mustard seed, 868 lbs. of Canada thistle seed and black chaff were taken. From 29 sacks of rice were extracted 67 lbs. of broken rice, 128 lbs. of flour dust and 51 lbs. of lumps of

dirt! From 2738 bushels of Canary seed were obtained 171 bushels of foul, worthless seeds, a portion of which were found to be seeds of poisonous plants.

Among the seeds more common for farm use, from 77 bushels of barley were obtained 61 bushels of pure barley, 9 bushels of oats, 4 bushels of peas, and 3 bushels of tangle-weed and other foul seeds.

From 336 bushels of rye were obtained 306 bushels of pure rye, 21 of oats, 6 of light rye and oats, 1 of tangle-weed, ½ bushel of peas, 8 lbs. of pure ergot, and some otner vile stuff!

From 30 bushels seed wheat, 1½ bushels of foul seed were obtained, and from 297 bushels flax seed, 20 bushels of "No-flax" and kale, or wild turnip seed, were obtained. From 28,992 lbs. of foreign mustard seed were obtained 27,829 lbs. so pure that it was shipped to England and sold at 11 cents per lb., leaving 1054 lbs. of chaff, Canada thistles and other foul seeds.

It would be useless for us to spend many words in commending a machine that will accomplish such results as these. Adams' Fanning Mill will accomplish this with *certainty* and *rapidity*, and *its general use would greatly lessen the present labor of the farm, while it would as certainly increase its profits.*

For further information inquire of J. Nourse, Agent, at 34 Merchants Row, Boston.

For the New England Farmer.

CATERPILLARS AND THEIR NATURAL ENEMIES.

Caterpillars have increased so as to be very destructive in some sections. Neglected apple trees near me the last season had every leaf devoured, while the wild cherry in the woods supplied entertainment for legions. In common with many others I keep them off my trees so that they have done no great injury, but had enough left that escaped to observe their habits, and to find that they have enemies unknown before to me. When a good Providence provides a check to such infestations, it will be well to know our friends, and not in ignorance destroy them. I put my hogshead used for irrigation on end under an apple tree, and on its head the tunnel for filling, which is a pail with a large tin pipe fitted in its bottom. Inside of this the caterpillars found an excellent place in the angle formed by the sides and bottom to make their cocoons, which they improved by filling all around; at the same time it made an excellent place for me to observe them, which I did by lifting the pail from time to time, to study them and to astonish older people than myself with my "larning," by showing them what had been done every year of their lives under their noses. Surely, "having eyes they see not." After their cocoons were all formed, (and it is surprising how quick a worm two inches long will shorten into a chrysalis three-fourths of an inch long, enveloped in silk,) we continued to look to see when the moths would come out. Instead of millers, I found one day two of the chrysalides attacked by "grandpa-long-legs," who gnawed into the cocoons a short distance from one end and were feasting upon them.

Being very much pleased to find grandpa making himself useful, even if his teeth were poor, in eating the life out of this pest, I made a visit the next day to note progress, when lo, and behold, young America was there—a worm had pushed aside the silk at the thin end and was going straight through the chrysalis! Filled with new delight and hope, I visited my observatory in the later part of the day, and found two worms at work. I then proposed to take time the next day and get a careful description of those good fellows, and make it known through the *Farmer*," so that no man should lift his hand against them, as we are apt to do with all worms, not knowing friend from foe. Went the next day with this good purpose and was chagrined to find that we, who are all the time on the jump, should be too "slow a catch" for them, for before the grandpas could finish their breakfast, they had swept the board and devoured a baker's dozen, and were away, no doubt for more! Now for the best description I can give.

I could not see their heads—they being out of sight in the insect they were feeding upon—but the rest of the body was very smooth, light brown, long and slim; say 1¼ inches long by 3-16 of an inch in diameter; could see that they were span workers, and no doubt quick travellers when in motion, and when still, lying straight along a branch of their own color, and are not easily seen. Wherever I have seen the chrysalides—and that is a large number—amongst hotbed sashes and planks, under window sills and fence rails, every one appears to be destroyed by this worm. On examining my trees to find the nests of eggs, (which all ought to do before the trees leaf out, for they are very easily seen and are generally on low branches,) I have found but very few, which gives me a large hope that we have found a check to the ravages of the caterpillars.

CALEB BATES.

Kingston, Mass., April, 1864.

For the New England Farmer.

PROFIT OF HENS.

Frequent statements and inquiries are made as to the profits of hens, and what kinds are the most so. There is probably a difference in the various breeds, but no certainty to be relied on in the matter. Much depends upon the individuals of whatever breed, whether profitable or not. Many kinds have been tried and got mixed up with the old sort, and this mixed breed is generally kept in this part of the country and give as good satisfaction as any.

To explain what I mean by individuals of the various breeds, I will mention two cases within my knowledge. One of my neighbors, a few years since, was inquiring about the profitableness of keeping hens, and said he had had three hens for two years past, that had not, to his knowledge, laid an egg, and he did not think them profitable. They were on a farm where plenty of corn, wheat and oats were raised, and could never have suffered for want of good fare. The other case occurred last year. In the spring, little Johnny Ames' grand mother gave him a hen which he

carried home. The rooster followed her. She laid many eggs, hatched and brought up three broods of chickens. The surplus eggs were sold. The chickens, except twelve pullets, were killed and sold at the door in November last. The eggs and chickens sold, reckoning the live pullets equal to a like number killed, all amounted to ten dollars and some thirty cents, and the hen was still laying. This she produced besides scratching for most of her living and support of her chickens while under her care.

Now it requires no figuring of the price of corn and other food in these two cases, to decide on the profitableness of Johnny's hen for some eight months, and the unprofitableness of those of his uncle for two years.

Do we not often witness the same difference in the productions of other domestic animals of the same breeds? Are we not too apt to jump at conclusions of the value of a breed, from an experiment with a single individual of the race?

RUFUS MCINTIRE.

Parsonsfield, Me., 1864.

For the New England Farmer.

VALUE OF BARNYARD MANURE.

With the view of determining the actual value of barnyard manure as found in the enclosures of our New England farmers, I have recently submitted several specimens to chemical analysis. A parcel obtained from the yard of a neighbor, which, under the conditions in which it was produced and preserved, may be regarded as a fair representative of the article as furnished by ordinary farmers, gave the following results:

A portion, weighing 7280 grains, was carefully dried in a porcelain dish over a water bath, and it was found to lose of water 5960 grains, leaving of dry matter 1320 grains. Of the residuum thus freed from moisture, 455 grains were placed in a platinum capsule and carefully ignited, thus removing the combustible or carbonaceous matter made up of the elements, oxygen, hydrogen and carbon. The resultant ash weighed 177 grains, showing a loss of volatile or combustible elements amounting to 278 grains.

In order that the results of the analysis may be clearly understood by agriculturists, it may be desirable to present them without regard to fractional parts, and to estimate by the whole amount experimented with, viz., 7280 grains. This amount gave of water, 5960 grains; combustible or carbonaceous matter. 806; nitrogen, 29; potash and soda, 41; lime, 43; magnesia, 14; phosphoric acid, 15; sulphuric acid, 11; chlorine, 14; silicon or sand, 335; oxide of iron and alumina, 22. The points in this examination which will doubtless appear most striking, are the large amounts of worthless material which constitute the bulk of barnyard manure, the water and sand greatly predominating over everything else. A better idea of this may be obtained, if the results of the analysis are applied to a larger amount of manure, which will give the constituents in pounds.

Assuming that a cord of ordinary barnyard manure will weigh 3000 pounds, its actual value as a fertilizer may be presented as follows: There are contained in it of water, 2456 pounds, common sand, 138 pounds; these added together give 2594 pounds of perfectly worthless substances. Now, if we still further subtract the carbonaceous matter, 332 pounds, which is of no more value than muck, peat, straw, or chaff, we have left only 74 pounds of active fertilizing material, which has a money value. To obtain this 74 pounds, which really is all that is valuable, the farmer loads and hauls upon his field 3000 pounds, or one and a half tons of a compound in which there is water enough to do the weekly washing of a small neighborhood, and a sufficiency of sand to keep the kitchen floor tidy for a month. The 74 pounds of mineral salts might be taken in an ordinary bushel basket and carried upon the shoulder to any point desired.

In this amount there is the nitrogen, potash, soda, lime, magnesia, phosphoric acid, sulphuric acid, chlorine, iron and alum. In estimating the market value of these substances, we may obtain the nitrogen by the use of crude nitrate of soda or sulphate of ammonia, at a cost of $1.70; the potash, soda, &c., in 1½ bushels of good wood ashes, at 25 cents; and 15 pounds of common salt, 10 pounds of bone dust, 3 pounds of gypsum, will supply the remaining constituents at a cost of 40 cents. If we estimate the carbonaceous matter at 10 cents, we have, as the actual cash value of all that promotes plant growth, in 3000 pounds of barnyard manure, the sum of $2.45.

There are but few localities where the farmer can purchase manure at less than five dollars the cord; and when to this we add the expense of hauling and applying to fields, we find there is a wide margin between the cost of the isolated valuable constituents of manure, and the article as furnished in its natural condition.

If bulk in fertilizers is desirable, artificial barnyard manure may be produced by thoroughly composting with a cord of seasoned meadow muck, 65 pounds of crude nitrate of soda, 2 bushels of wood ashes, 1 peck of common salt, 10 pounds of fine bone meal, 2 quarts of plaster, 10 pounds of epsom salts. The cost of this compost ought not to be over $3.00 the cord, and in fertilizing power it may be found to exceed ordinary animal excrement.

The question has arisen, whether analysis furnishes true data from which to estimate the actual value of barnyard manure; whether there is not some property communicated to mineral salts in their passage through plant and animal organisms, which peculiarly adapts or fits them for again becoming plant fructifiers. This is an interesting question, and one which may be considered in a future communication. In what has been presented, the fact is not overlooked, that manure or animal excrement as found upon the premises of farmers varies greatly in value. Its value is in proportion to the worth or richness of food supplied to animals. A herd of kine fed upon clover hay, and supplied liberally with grain and turnips, will furnish excrement of more than twice the value of that from animals fed upon run hay, with no grain or roots.

The farmer is very apt to look upon the contents of his yard as so much manure—in value equal to any other which it may in physical aspect resemble. This is a very erroneous view of the matter. Lean feed makes lean manure; and the actual value of a parcel may be understood by knowing what kind of hay or grain has been furnished the animals producing it. Whenever, in riding past a farm-house in the winter, we notice

the stock to be particularly lean and weak, we may be sure the heaps of manure under the eavesdroppings of the barn are as lean and weak as the poor animals shivering around them.

In extended chemical examinations of different kinds of excrement during the past winter, several incidental points which are deemed of much importance, have attracted attention. I will at this time bring to notice but one of them, and that relates to the proper preparation of food for animals. In quite all the parcels of excrement submitted to analysis, the evidence of imperfect digestion and assimilation is palpably manifest. Corn, oats and timothy hay have been found in large quantities, entirely unchanged in their passage through the stomach and alimentary canal of horses and horn cattle. It will be safe to say, that, under the prevailing method of feeding, fully twenty per cent. of the hay and grain is lost, the nitrogenous and carbonaceous elements being rejected without assimilation. The vital processes, unaided by any preparation or softening of food before consumption, seem incapable of perfectly dissolving and changing it when deposited in the stomach. The silica in the husks of oats, and stalks of grasses, probably retard these processes, and hence we see how important it is that food should be steamed, or otherwise cooked, before being fed to animals. Oats and corn should certainly be finely ground, and if, in addition, facilities for scalding or steaming are provided, much gain will thereby result to the farmer.

J. R. NICHOLS.

111 *Milk Street, April*, 1864.

EARLY SEED CORN.

We often see advertisements of early seed corn of different varieties, which are not always to be relied upon to the extent stated. When a particular variety of corn is introduced into any locality, it may come two, three or even four weeks earlier than other kinds which have been cultivated in the same region; but if the seed raised from it in successive years is planted, it will gradually lose its early quality and become as late as any other; and for a very simple reason: because it has adapted itself to the climate in which it is raised. Plants have many of the characteristics of animals, and among them is that of adaptation, or the power of acclimation. Animals often undergo an entire change in the course of a few generations, on being removed from their own appropriate regions, and so do plants. The early corn is usually brought from a more northern latitude where the season for its growth is short and where it is compelled, as it were, to ripen early in order to escape the frosts, being planted late for the same reason. Our late corn, if taken into Canada, would, in the course of a few years become early corn, just as early corn brought from the far North becomes late after several seasons' planting.

The only way to have early corn every season, is to obtain the seed each year from a more northern region—the farther north the better. Among all the varieties that have been tried, many of which are highly extolled, I do not know of any that is more desirable for table use as green corn than the old-fashioned sweet corn. If farmers and gardeners will take the trouble to send to Canada for a supply of seed (and they can do this very easily and cheaply, by uniting together and having it forwarded by express from some seedsman or gardener in Montreal,) they may then be reasonably sure of having an early luxury. But the same course should be taken every year, as otherwise each year this crop will lag a little behind until it becomes as late as any.—*Maize, in N. Y. Observer.*

RAISING TURKEYS.

In your journal I noticed an inquiry for the best plan to raise turkeys. Permit me to give between sixty and seventy years of my experience.

To take a fair start procure black turkeys, and teach them to be gentle before they commence laying. As soon as they begin to lay, take away their eggs—let their nest egg be a hen's egg. When they have laid out their litter destroy the nest, feed them well, and in ten days or less, they will generally commence laying again. Turn those they have laid once or twice a week. When they have the second lot, and want to set, let them have what eggs they can well cover, and put the balance of the first litter under a hen at the same time, or as near as may be, so that they will hatch nearly together. Take the young chicks from the hen and put them all with the old turkey, she will brood them all.

My first and only feed is curd from sour coagulated milk, scalded, turned on a seive, or a board will answer, and the whey drained. I do not use any salt or pepper. I keep them in the stable, or on the barn floor, a day or two, and then let them out if the weather is favorable. Put them up every night early, until they are two or three weeks old. By this time they have formed a habit of coming home, and the grasshoppers and insects have become so large they mostly supply their appetites. See that they come up every night, and feed them well in the morning.

By my plan they are about three weeks later, but will go a-head and make up lost time. I would not let them set as soon as they have laid the first litter, if I could have a cart load of eggs given me.—*Cor. Rural New Yorker.*

VENTILATORS FOR BARNS.

MESSRS. LUTHER TUCKER & SON:—I am reminded by the figure of a ventilator for the use of barns, in your paper of Feb. 4th, that I am indebted to your "Annual Register of Rural Affairs" of 1862, for my first idea of this plan, which I have already found of sufficient advantage to pay for the "Register" for the next forty years at least.

I have a barn which, with the L attached, is over one hundred and twenty feet long. Until within two years it had no ventilation from the roof, though I had long been aware of its necessity both for the benefit of the stock and the hay stored therein. Having one cupola on an adjoining barn, I was unwilling to incur the expense of building another, as a very ordinary cupola with blinds will cost fifty dollars in stock and labor. On seeing your plan for ventilators I was much struck with its simplicity and apparent efficiency, and immediately had four made, three for the main barn, twenty-two inches square on the inside, and one for the L, sixteen inches. As soon as they were put up, the improvement in the air of the barn was immediately noticeable; the raft-

er and roof boards that were ordinarily damp and sometimes wet from the condensed vapor, were at once dried, and the hay has since been sweeter and more free from must. The expense of these four ventilators, fitted and placed, including the cost of material, was thirty dollars; they are much more efficient in their operation than a cupola, as they take the air from four different parts of the barn, while a cupola operates only thoroughly near the centre. I am just completing a large barn, on which have been placed three ventilators of this description, each measuring two feet square in the clear; they are made of the best of lumber, and cost on the barn complete, at this time of high prices, twelve dollars each. In locating them on the building, I placed one in the centre of the roof, the other two one-fifth of the length of the barn from either end; this equalizes the ventilation throughout the building. These ventilators are rather ornamental than otherwise, giving a completeness of finish, and breaking a long line of roof. I would strongly recommend them to those persons who contemplate putting up buildings for the storage of cattle or hay. I have cupolas on two of my barns that I should be very glad to have replaced by the ventilators.

While on the subject of ventilation, I would remark on the importance of a change of air in the lean-to, or those parts of the barn where animals stand.

I have a barn ninety feet in length, on each side of which cows are tied. I used to be painfully impressed with the unhealthfulness of the atmosphere for man or beast, on going into the barn on a cold winter morning, when all had been tightly closed through the night. Hoping to make an improvement, I caused four boxes, twelve by twenty-four inches, to be carried up on each side of the barn, back of the cattle, against the outside walls. These opened in the floor over the lean-to, and also on the outside of the building just under the eaves; slides fitted to the lower opening regulate the draft. The plan has operated to my entire satisfaction, and with the ventilation in the roof, serves to keep the air always pure,—no easy matter in a modern barn, containing sixty head of cattle.

One suggestion more and I have done. Much complaint is made by those having close sided or clapboarded barns, that the hay laying near the outer walls becomes damp and mouldy. I think this may be avoided by nailing strips of board on the studs a few inches apart, which will prevent the hay touching the outside. In my own case, I have, in addition to the strips, an opening in the outer wall, near the sill in each section, six inches square; this creates ventilation and keeps all dry and sweet.

HENRY H. PETERS.

Southboro', Mass.

GROWING CUCUMBERS.—Take a large barrel, or hogshead; saw it in two in the middle, and bury each half in the ground even with the top. Then take a small keg and bore a small hole in the bottom; place the keg in the centre of the barrel, the top even with the ground, and fill in the barrel around the keg with rich earth, suitable for the growth of cucumbers. Plant your seed midway between the edges of the barrel and the keg, and make a kind of arbor a foot or two high for the vines to run on. When the ground becomes dry, pour water in the keg in the evening—it will pass out at the bottom of the keg into the barrel and rise up to the roots of the vines, and keep them moist and green. Cucumbers cultivated this way will grow to a great size, as they are made independent both of drouth and wet weather. In wet weather the barrel can be covered, and in dry the ground can be kept moist by pouring water in the keg.

THE NATURE OF SCIENCE.

Many persons entertain the most erroneous notions respecting the character of science. They think and speak of it as if it were some mysterious intellectual subtlety, revealed to the few and denied to the many. Such ideas may have come from the olden times when all men believed sincerely in mysterious powers committed through incantations and charms by deities and spirits who had power over "the earth, the water, the air, and fire." The ancient alchemists and astrologers kept what they called "science" secret, as something too sacred to be communicated to the mass of men; hence they taught favorite disciples only. Many of those old plodders in the paths of science were sincere in their peculiar views, but it must be admitted that too many of them employed secret discoveries in chemistry for the purpose of astounding their unlearned fellow-men by their curious experiments, in order to obtain power over them. Astronomy, also, such as a superior knowledge of eclipses and the movements of the heavenly bodies, was employed in a sort of quack manner to obtain power by foretelling events. Many of these impostors were very like the learned Irish prophet set forth in Hibernian verse, who knew every event before it happened after it took place. Science simply means knowledge of any subject—its nature and operation; and whoever knows most of any branch of knowledge, and can apply it in the best manner, is the most scientific in that branch. Knowledge means truth, as there can be no knowledge based upon fiction. A man, however, may perform a mechanical or chemical operation in a very superior manner and yet not be scientific. A parrot can speak, but a parrot is not a linguist, nor has it any knowledge of the science of language. A man, to be scientific, should know "the why and the wherefore of the operations he performs." Mathematics is a science, but great powers of calculation afford no evidence of scientific acquisition. Some individuals, not much above the reach of idiocy, have been great calculators. Yet mathematics as a science requires a high grade of intellect and great persistency of mental effort to master. Science may be said to be a collection of facts and experience accurately arranged and properly understood. Chemistry, for example, is an art and a science, because it is a collection of the results of careful experiments. Geology is simply a collection of facts carefully arranged. A theory is not a science; it is simply the explanation of phenomena. Every science has, according to Max Muller, first an empirical stage, in which facts are gathered and analyzed. After this they are classified or arranged, and according to the inductive method, theory explains the purpose or plan of the whole. —*Scientific American.*

GENERALLY the greatest humbug is he who talks of humbug the most glibly.

NEW BOOKS.

10 Acres Enough: A Practical Treatise for the Million, Showing how a very small Farm may be made to keep a very large Family. New York: James Miller.

This is an excellent book. It comes directly home to the wants of the family. There is no circumlocution, no fine-spun theories, no fancy sketches—though we like these sometimes—about it. It is rigidly, persistently practical. It is full of *faith* as well as sound teachings. It is a book that applies to in-door duties as well as out,—recognizes the women and children as a portion of the family whose comfort must be considered in everything that is to be done. Every one cultivating land should read it, and especially those who do not believe farming profitable, and have little faith in their own good works on the soil.

The book is printed on large type, with good paper, but sent to us in mean paper covers. We want another copy in a better dress.

Read, below, and see how truly the author points out the first leading error of most cultivators.

The mistaken ambition for owning twice as much land as one can thoroughly manure or profitably cultivate, is the great agricultural sin of this country. Those who commit it, by beginning wrong, too frequently continue wrong. Owning many acres is the sole idea. High cultivation of a small tract, is one of which they have little knowledge. Too many in these several classes think they know enough. They measure a man's knowledge by the number of his acres. Hence, in their eyes the owner of a plot so humble as mine must know so little as to be unable to teach them anything new.

It seems that the writer had been a business man in the city, and that mercantile convulsions and the high cost of living had made it difficult to "make both ends meet" at the close of the year. So after numberless deliberations, mingled with hopes, doubts and fears, they purchased a home in the country. We will let him tell his own story about it.

In a week the house was vacated and cleansed, and we were in full possession. My wife was satisfied, my children were delighted, and I had realized the dream of twenty years! One strong fact forced itself on my attention the first night I passed under my new roof. The drain of three hundred dollars per annum into the pocket of my city landlord had been stopped. My family received as safe a shelter for the interest of a thousand dollars, as he had given them for the interest of five thousand! The feeling of relief from this unappeasable demand was indescribable. Curiously enough, my wife voluntarily suggested that the same feeling of relief had been presented to her. But in addition to this huge equivalent for the investment of a thousand dollars, there was that which might be hereafter realized from the cultivation of eleven acres of land.

This lodgement was effected on the first of April, 1855. When all our household fixings had been snugly arranged, and I took my first walk over my little plantation, on a soft and balmy morning, my feeling of contentment seemed to be perfect. I knew that I was not rich, but was certain that I was not poor. In contrasting my condition with that of others, both higher and lower upon fortune's ladder, I found a thousand causes for congratulation, but none for regret. With all his wealth, Rothschild must be satisfied with the same sky that was spread over me. He cannot order a private sunrise, that he may enjoy it with a circle of friends, nor add a single glory to the gorgeous spectacle of the setting sun. The millionaire could not have more than his share of the pure atmosphere that I was breathing, while the poorest of all men could have as much. God only can give all these, and to many of the poor he has thus given. All that is most valuable can be had for nothing. They come as presents from the hand of an indulgent Father, and neither air nor sky, nor beauty, genius, health, or strength, can be bought or sold. Whatever may be one's condition in life, the great art is to learn to be content and happy, indulging in no feverish longings for what we have not, but satisfied and thankful for what we have.

Now that our author has got fairly settled on his *ten acre* farm, let us see what he really knows about the garden, and whether he has studied agriculture in a scientific or philosophic point of view. But we must detain the reader a single moment, to call his attention to the pleasant manner in which the writer frequently introduces his wife, and to note the affectionate interest which she took in his farm and garden affairs. See how kindly they drew together in an even yoke! "Kate," too, a partner of their toils, we suppose was a daughter, worthy of such a sire. Now for the garden talk:

The town within half a mile of us contained some five thousand inhabitants, among whom there was a daily demand for vegetables. I took my wife's advice, and from time to time gathered such as she directed, for she and Kate were sole mistresses of the garden, and sent them to the store. They kept a regular book account of these consignments, and when we came to settle up with the storekeeper at the year's end, were surprised to find that he had eighty dollars to our credit. But this was not all from vegetables—a good deal of it came from the fruit trees.

After using in the family great quantities of fine peaches from the ten garden trees, certainly three times as many as we could ever afford to buy when in the city, the rest went to the store. The trees had been so hackled by the worms that they did not bear full crops, yet the yield was considerable. Then there were quantities of spare currants, gooseberries, and several bushels of common blue plums, which the curculio does not sting. When my wife discovered there was so ready a market at our own door, she suffered nothing to go to waste. It was a new feature in her experience—everything seemed to sell. Whenever she needed a new dress for herself or any of the children, all she had to do was to go to the store, get it, and have it charged against her garden fund. I confess that her success greatly exceeded my expectations.

Let me now put in a word as to the cause o

this success with our garden. It was not owing to our knowledge of gardening, for we made many blunders not here recorded, and lost crops of two or three different things in consequence. Neither was it owing to excessive richness of the ground. But I lay it to the unsparing warfare kept up upon the weeds, which thus prevented their running away with the nourishment intended for the plants, and kept the ground constantly stirred up and thoroughly pulverized. I have sometimes thought one good stirring up, whether with the hoe, the rake, or the cultivator, was as beneficial as a good shower.

This result is very easily shown by experiment. Just notice, after a dewy night, the difference between ground lately and often stirred, and that which has lain unmoved for a long time. Or take two cabbage plants under similar circumstances; water one and stir the other just as often, stirring the earth about it carefully and thoroughly, and see which will distance the other in growth.

Who is the writer? We should be glad to "swap" a little with him, at any rate, so much as to visit his 10-acre farm, and receive a visit from him in return—wives included, of course!

ELEVENTH ANNUAL REPORT of the Secretary of the Massachusetts Board of Agriculture, together with Reports of Committees appointed to visit the County Societies, with an Appendix containing an abstract of the Finances of the County Societies, for 1863.

This volume is made up of the Transactions of the Massachusetts Board of Agriculture for the year 1863, directly and indirectly, and contains a report of the visit of the Secretary to Europe, in which are embodied a great many interesting and valuable facts. The history of the pleuro-pneumonia among our cattle is continued, stating what has transpired since the volume of last year was published. A considerable portion of the volume is occupied by the Reports of Delegates to County Societies, and with extracts from the Transactions of these societies. Many of these extracts contain valuable information, show that the spirit of progress is abroad, and that a more enlightened practice in the cultivation of the soil is steadily making its way among our people.

The volume contains a mass of varied and valuable information on almost any subject pertaining to the farm. It will be eagerly sought for, and cannot fail to have a happy influence upon that class for whom it was especially intended.

ACTION OF LIME ON SOILS.

Prof. HARPER, in a series of articles in the *Practical Farmer* on *Fertilization* and *Fertilizers*, says hydrate, that is, slaked lime, as well as caustic lime, or quick lime, have no agency with respect to vegetation immediately, but a double one concerning the soil. Both are a most powerful alterative chemically and mechanically.

As a chemical alterative they act as an alkali, and neutralize the acidity of any soil, by attracting the acid and combining with it to form a neutral salt, and free the soil of its acid effect. In their alkaline and caustic state they destroy both any excess of vegetable remains in the soil and benefit the growing vegetation in that way very much. Decayed vegetable matter is generally beneficial for plants, it contains carbonic acid and all the elements of fertility in an assimilable state. It is especially beneficial for such plants as require a large quantity of carbonic acid, but too much vegetable matter, and especially decaying or putrescent vegetable matter, is injurious for any plant, even for those that require large quantities of carbonic acid. The decaying or putrescent matter rots the small roots of the plants and destroys them, and lime is therefore in this case extremely beneficial—it remedies the evil at once.

Lime must not be applied to poor lands, especially without having been preceded by manuring or without manuring afterwards. Lands of great fertility may be limed any time, and will after lime probably yield a heavier crop than by manuring. Lime should never be applied in wet weather, especially not on a growing crop. Moisture renders its caustic qualities immediately active, and it loses its great combining power quickly; on the other hand if caustic lime is applied in wet weather to a growing crop it will destroy its roots and injure it considerably. The fall is the most suitable season for liming.

NEW DUTIES ON WOOL.

It is quite evident that the action of the Wool Growers' Convention at Columbus last January, together with other movements to the same end, in various portions of the New England and Western States, have at length so attracted the attention of Congress as soon to bring about some change in this highly important subject.

There is now a demand for wool such as has never existed in this country before, and this demand will be likely to continue to its full extent for several years to come, even if the war closes and cotton comes freely to our manufacturers. Sudden and extensive changes can only rarely take place in an interest so vast as that which the manufacture of cotton and woollen goods has now reached in this country.

This great branch of industry directly affects the interests of the farmer all over our land, north, west and south, and these interests demand the most careful consideration of those whose duty it is to legislate for the best good of all.

Under existing circumstances, it would be idle for the farmers of the north and west to enter largely into sheep husbandry, without a protection more adequate than any which at present exists. It would be a competition, with advantages so decidedly on one side, that loss or ruin would certainly ensue to those who engaged in it. It would be a competition with long and severe winters, a hard and rocky soil, and high wages and taxes on one side, with low wages, mere nominal taxes, and a mild climate, and never-ending pasturage, on the other, spontaneously producing through the entire year all the herbage that millions of sheep

could consume. Nearly the whole cost, indeed, of wool, under the latter circumstances, would be the capital originally invested in the stock, shearing and transportation. Under the low wages of the countries where these wools are produced, the transportation to any of the Atlantic cities would be as low as it now is from our wool-producing towns. The water transportation would be very low, so that if the land carriage were considerable, it probably would be no higher than it now is among ourselves.

There is not, then, in any sensible point of view, any such thing as competition by our people with those who supply foreign wools. We *must* have protection through the interference and justice of the general government, or we must yield that branch of industry into the hands of a foreign people. This we ought not to do, because certain large portions of our country are admirably adapted to wool and mutton growing, and would be of little value for other agricultural purposes, unless it were for grazing cattle.

We have noticed with some apprehension that, in certain quarters, an antagonistic feeling is growing up between the producer and the manufacturer. At the Convention at Columbus, the action of the wool-growers was watched with eagle eyes by agents of the manufacturer, and the bearings of every proposition criticised with all that shrewdness which distinguishes that class of our citizens. This should not be so. There is really but *one interest* in this matter, and while the farmer strives to produce just the article the manufacturer wants,—whether it be long wool or short, coarse or fine,—the latter should yield to him a fair share of the accruing profits.

The subject of sheep husbandry, in all its bearings, is one of importance, and we invite our friends to give us their views upon it, whether they relate especially to rearing sheep, the best breeds, or the qualities and value of wool. It is essential to farmers that they unite in some well-defined course of action, make their wants known to the general government, and then press them until they are granted. Let us have, then, the views of our friends from every quarter upon this important branch of rural industry.

EFFECT OF THE EUROPEAN WAR ON OUR FARMERS.—One of our exchange papers argues that the European War is likely to have an important influence on American markets. England depends on Prussia for four or five millions of bushels of wheat. This will be cut off. The blockade is likely to intercept commerce with the Baltic. And from other causes we may look for a still further increase of price. The article alluded to closes with an exhortation to farmers to raise all they can this year.

For the New England Farmer.

TO THE FARMERS.

Farm work is beginning in this region in good earnest. Early potatoes and the early vegetable seeds are now being put in the ground. Have any of your farmers tried the experiment of cutting off the seed end of the long potatoe? The round potatoe shows the same small cluster of eyes, which can be cut out, then cut the large potatoe so as to have but three to five eyes in a hill, say twenty inches apart. Plant the seed ends separately in rows, and at digging time you will find your potatoes all assorted. You will get as many pounds in a row of large ones, as if the whole potatoe were cut and planted. Small potatoes do not pay for raising, excepting for stock, and but little satisfaction at that.

The wheat should be sown early, on high, warm land, two bushels to the acre, well manured. The grain should be soaked in brine, and ashed, and pressed to maturity as early as possible, or before dog days and mildew shall trouble you. Winter wheat bears a strong, rich grass land, and should be sown the last of August. These grains are the most profitable of the grain crops, if properly attended to, even in New England.

It has been said by some of your public lecturers, that as well may you raise the morus multicaulis successfully, as wheat in New England. I trust there are too many among you that can give this assertion a flat contradiction. Should you fail in the spring crop, you have the fall wheat to fall back upon. This double advantage is denied you with other grains, excepting spring rye, that is of no account.

I fancy that far less ground will be tilled this year than formerly, for the lack of laborers among you. War has made terrible inroads upon our noble class of farming men. But they are battling for the right, for us, our country, our God. Let every town in New England raise its monument high, inscribing the names in golden letters, of the slain. Let the motto be at its base: These heroic men were slain by the hands of traitors, in the Southern rebellion against the Union, for the perpetuation and extension of slavery in the United States of America.

Mr. Editor, please excuse this divergence from my main subject, although thousands upon thousands are interested in the sad topic.

But the hand of the farmer must not slacken. His great and indispensable work is before him. Labor is dear, but farm products are dear also. Cattle, swine and horses, are selling at unprecedented prices. While paying 56 cents a pound for family butter, (price now reduced to 35,) I did consider fresh pork at 18, beefsteak and veal cutlets very dear at 25 cents. These prices are sustained. But the farmer does not get all these benefits. It is the middle men and retailers that gather the harvest. No article of prime consumption has advanced less than flour, while corn has doubled in price.

On the whole, I see no great necessity of much reduction of your crops. Grass and fruits only require harvesting. Labor applies to the tilled crops. You will apply your manure heaps to one-third or half of the number of acres you formerly did. From these few acres you will gather larger crops than ever before—take a hundred bushels of corn from one acre, instead of three or four

acres—so with all your crops. Spread manure heavily and plow in at once to save the gases. Corn yellows, when put upon strong, heating manure in the hill. It makes slow growth till the roots meet the fresh earth as they range out of the hill, gaining hardiness, nourishment, strength and growth, as they come in contact with the spread manure. Compost will do to put in the hill. If you were setting out fruit trees, you would not think it sufficient to "dung in the hill," to insure a thrifty orchard. Roots want the good feed as they journey on. Some farmers merely harrow in their manure. It seems to me a fatal error, it being so near the surface, a few weeks must evaporate all its goodness. If I should plow ten inches deep for any crop, I should plow in my manure. Unceasing evaporation brings up all the gases to the surface, leaving its enriching qualities in the soil for vegetable growth. In proof of this, dig a hill of potatoes eight inches or more deep, and you will find no ammonial gases in the rotted manure, and the potatoe entirely unimpregnated with it.

The season is late, but late seasons are more safe for fruits and the early crops. Your work becomes more pressing, but if seedtime is late, July and August seldom fails to make your crops. This day of summer heat has brought out the blossoms of my peach tree, that never fails to give me one to two bushels of delicious fruit annually.

The length of this communication is its objection, although I am only half through. But if you think it of any value to your readers, publish it; if not, cast it among the waste paper.

H. POOR.

Brooklyn, L. I., April 24, 1864.

REMARKS.—None too long, friend POOR. Your offerings are always acceptable and timely. Write often.

CULTURE OF THE STRAWBERRY.

Some years since, Mr. Peabody, of Georgia, one of the Editors of the "Soil of the South," cultivated the strawberry quite extensively, and did undoubtedly meet with great success. He says:

It is a fact too notorious now for any one of respectability to dare to dispute, that we do cultivate *acres* of strawberries without animal manure of any kind; and that we have a constant succession of fruit from March until September; and this, too, in this hot climate of the South.

The Secret.

The whole secret of strawberry culture is to cultivate for fruit, and not for vine or blossom. Much depends upon the locality of the strawberry bed. No tree or plant should be near it; the strawberry loves shade, but not a shade that sucks its very life blood out. The lowest part of the garden, the bank of some little stream of water, are proper localities, and where it is possible select new land. As to the soil, our beds are on as poor pine land as gopher or salamander ever built into pyramids, and we believe it is pretty generally conceded now, within a circle of a few hundred miles, that we do *occasionally* have a strawberry. We do not know but a stiffer land may suit them better, but ours does well enough, and we are not disposed to act like that foolish man who "was well, wished to be better, took physic, and died." The strawberry may be transplanted any time from September until March. The plant, properly taken up, is very tenacious of life, and bears transplanting well.

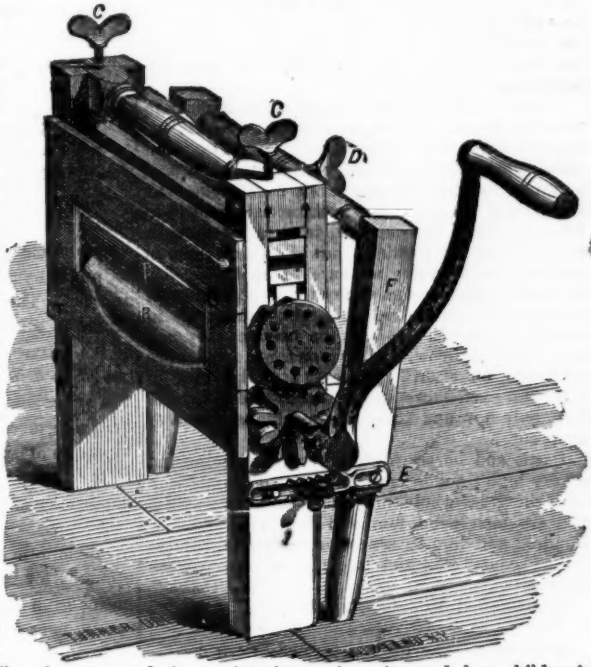
Directions, etc.

The ground designed for the strawberry bed should be plowed or spaded as deep as tools can well make it. If the soil is light and thin, a thick coat of swamp muck or partially decomposed leaves, with leached or unleached ashes, will be fine to turn under. After the ground is pulverized and leveled, mark it off into rows two feet apart. Now plant eight rows of Hovey's Seedling and one of the Early Scarlet, two feet apart in the rows, and so continue until the bed is finished. We speak particularly of these two varieties, and we should consider it labor lost to cultivate a variety which only gives fruit three or four weeks in the season. And we have never found a finer fruit, in point of size and flavor, than the Hovey, and none finer flavored than the Early Scarlet. Care should be taken that the plants are put into the ground just as they came out of it; that is, with all their laterals spreading, and not all gathered together and crammed into a little hole. Now, if the object be to get a large number of plants for another year, keep them well worked with the hoe, and let the runners take root. The whole ground will be full by fall. But if fruit be the object, cover the whole surface of the ground with partially decomposed leaves or straw, and as the first runners begin to show themselves, take them off. Care must be used in taking off the runners; they should be cut, and not pulled off, as careless servants will ruin many plants. When the vine has once commenced fruiting, it will show but little disposition to run, as its whole effort is to make the fruit—particularly if the vine is not over stimulated. It is not enough that the strawberry bed is in a moist, cool location; for if the ground is moist, the plants want water to set the fruit, and to swell the fruit when set. It is asserted by some English cultivators that the plant should not have water when in bloom, as it washes the pollen away. This may do for England, but it does not do here. We care not how much water they have when in bloom. If the season proves dry, we give them water to set the fruit by artificial rain; and unless it rains twice a week, we give artificial rain to swell the fruit, and then we give artificial rain to form the next fruit stems, and so on. Fear not to give too much water; water morning and evening. If grass and weeds show themselves, use the hoe freely. After it is no longer an object to gather fruit, let the vines run and mat together. In the winter, go through with the hoe, thinning out to twelve or eighteen inches; leaving the cut-up vines to decay where they were cut; then cover the whole bed with leaves, straw, swamp-muck, &c., but *use no animal manure.* Let the proportions of male and female plants remain the same as when first planted.

Let the cultivator remember the four great requisites for a profitable strawberry bed: proper location, vegetable manures, shade to the ground, and water, *water*, WATER.

IT not unfrequently happens that manners are best learned from the unmannerly.

THE UNIVERSAL CLOTHES WRINGER.



Several years ago, a gentleman brought into our office a machine for wringing clothes. We had never seen one before, and hardly supposed a simple arrangement of rubber rollers would squeeze the water out of cloth as well as is done by hand. We mounted the machine on our office water-pail, and commenced a series of experiments with towels, &c., resulting in an opinion that the machine was a good one for the family, and that we would have it tried at home on a larger scale. From that time we have never been without a wringer, and we would not be without one if the present prices were doubled.

Our first machine was a small affair, promising to hold itself on the tub, but really requiring one hand or more for that purpose, and so adding much to the labor of using it. The upper roller was moved by contact with the lower. We have replaced it with one like the above, which gives much better satisfaction. The peculiar features of the Universal Wringer, are, the manner of attaching it to the tub, and the cog-wheels turning the rollers. By the manner of attaching it, the wringer is held firmly upon a tub of any size. By means of the cog-wheels the rollers are relieved from a great amount of friction. We have never understood the advantages of these cog-wheels until recently, when we have tried a series of careful experiments with a wringer without them and one with them. We *can* use a wringer without cogs, and have done so for years, but there was a necessity for constant care in preventing the clothes from drawing in too rapidly, preventing the upper roller from revolving and bringing a strain upon the fabric which would tear any light material. In a wringer with cog-wheels, when the crank moves *both* rollers *must* move, and move equally, and no strain can come upon the cloth, because it is acted upon equally from both sides, and experiences only a direct pressure. We should, therefore, not use any wringer not having cog-wheels, if we could obtain one with such an attachment.

In conclusion let us say a few words about the economy of such machines. We hear people say frequently they cannot afford such household conveniences. We cannot afford to be without them. We know many a family where the mother works from early dawn till late into the night, and barely keeps her house in order and her children's clothes neat and whole. We know other families, where a servant is employed, at good wages, though the work is light, because the mistress of the house lacks a little only of the time and strength she needs to do her own work. In both these cases, introduce a sewing machine, a clothes wringer, and other like labor-saving inventions, and the work becomes easy, the servant is dismissed, *money is saved*, health preserved, and toil turned into enjoyment. Every labor-saving invention benefits directly the laboring class, and it is to persons of small means that these machines are particularly valuable.

For the New England Farmer.

SHEEP---NOTES FROM MAINE.

With an abundance of hay and feed for sheep through the winter and spring, and a desire to have them do well, it is seldom that sheep look and do so poorly as they have the past winter and spring. Early in the winter they began to show symptoms of scours and starting off of the wool, with moping, weakness and a desire for seclusion, and every now and then one would fall out. Flocks of fifteen to twenty-five have had their proportional number of dead to be supplied, as well as those of seventy-five to one or two hundred.

Ask the farmer how his fodder held out, and he will reply with a cheery response, "Shall have hay to spare; do you want to buy?" Ask him how his sheep were wintering and the cheery expression will suddenly change to a downcast, thoughtful one, and after a little reflection you will elicit the fact that his sheep are pulling their wool, los-

ing it, ticky, have the scours and more or less have died, in spite of all the care which could be brought to bear on them; and lately, that they are troubled with grubs in the head, which, with the scours, make much quicker work than the scours did in the winter.

Many experiments and modes of treatment are resorted to, but as yet, none, as far as I am informed, have been of but little use. One man came some miles to get a prescription. The prescription stopped the scours but nevertheless the sheep died. A post mortem showed the midriff to be nearly half decomposed, implicating quite a patch of the stomach and bowels, which came in contact; so here was no cure to be looked for. In another, going the same way, a post mortem examination showed eight large grub worms in one nostril, as far up into the head as they had had time to burrow, with two or three small ones wriggling on after. So they go, to the tune of fifty, and even more, in one flock, where, heretofore, only now and then one would be found to drop out.

Cattle and horses wintered well, and command a very high price in one sense, but in comparison with the great whole, only about an average. Six feet six inch oxen, four and five years old, one hundred and fifty to seventy-five dollars, according to beauty, &c., and larger ones in nearly the same ratio. O. W. TRUE.

Farmington, Me., April 27, 1864.

REMARKS.—The disease termed by our correspondent "*the scours*," seems to be quite prevalent this spring throughout New England. There is, of course, some special cause of this, and it is reasonable to us that it lies in the quality of the fodder upon which the sheep have been fed through the winter. During the entire haying season, last year, there was such a succession of cloudy and rainy days as almost completely to prevent getting any hay in a perfect condition. Such was the state of the weather in all this region, and we believe it extended to the adjoining States. Comparatively little hay was got in short of three or four days after the grass was cut, and much of it stood a week. On some excellent farms, where the crops are skilfully managed, we often saw hay standing that had been cut a fortnight! Indeed, immense quantities were housed in a blackened and highly damaged condition, and its nutritive qualities greatly diminished. When such hay is thrown from the scaffold in the winter, it gives off none of that delightful aroma so common to well cured English hay, but has a musty, offensive odor and fills the barn with dust. It seems to us that stock fed upon such hay cannot gain in milk or flesh, and are in daily danger of contracting disease. Is it not probable, then, that the unwholesome condition of the fodder upon which sheep have been fed, is the cause of the disease so common among them?

It may be said that cattle have thriven well upon similar fodder. That may be—but they are of a hardier nature, and not so sensitive to such influences as sheep. Cattle would also be quite likely to have a greater variety of food, such as the tops of corn, and husks, and butts.

FARM ECONOMY.

No single inquiry is more frequently addressed to us, than this,—"*What is the most profitable farming?*" It is impossible for us, or any other person, to answer this question with any sort of satisfaction to the inquirer, because what would be profitable under the circumstances of one farmer, might be ruinous under the circumstances of another. The *economy*, therefore, of which we intend to speak, *includes a provident management of all means by which property is saved or accumulated; a judicious application of time, of labor, and of the instruments of labor.*

In a former article, published some weeks since, we spoke of the *arrangement of farm buildings*, of the *action of the elements upon them*, and the importance of *shelter* for their preservation.

We propose now to consider the same subject, in some other particulars; and first, it is poor economy for the farmer to invest too much of his means in buildings, as a certain amount of *cash capital* is as necessary to the business of the farmer as to many other occupations. As a general thing, however, our farmers are not liable to the charge of extravagance in this particular. It is certainly good economy to have buildings compactly and conveniently arranged so as to avoid all unnecessary travel. A certain degree of thoroughness must also be observed in order to make the construction a profitable one.

It is good economy to see that cellars are properly drained and divided, that suitable paths are made to pass upon from one building to another, or from the house to the highway,—that fields and highways are properly subdivided, that *fences* are economically constructed, and that *wood* and *water* are plentiful and convenient wherever they are required. So with regard to the rotation of crops, the preparation and application of manures, the selection of proper vehicles and implements, drainage, the best breeds of stock, and, indeed, the whole economy of the farm. But we pass particulars in these, to touch upon one or two points that lie nearer the heart of the family, and which are vital to its health and happiness.

A gentleman who had been engaged in preparing for publication the *Returns of the Industry of Massachusetts*, and the *Registration of Births, Deaths and Marriages*, including the diseases of which our people had died, informed us that there were more cases of death from *insanity* among the families of farmers, than in any other occupation! We were surprised at the statement, as it was the reverse of what we had always supposed

to be the fact. Subsequent inquiry and observation, however, have somewhat reconciled us to the unwelcome truth. The prevalence of this terrible malady among *men* engaged in farming, we infer, is often occasioned by *the want of a proper action and development of the brain*,—the disease not assuming a spasmodic and excited form, so much as a gradual sinking into a half-idiotic or imbecile condition, that often ends in a total loss of mental power. But in the case of *women*, the cause of the malady may be traced to intense mental activity, to unceasing care, and to the overtasking of every power, both of mind and body, in the ever-recurring and perpetual duties and responsibilities of the family.

Let us present a brief sketch of actual life, of which thousands have sat for the picture. It is that of a young farmer. He marries, and for a year or two his wife can do very well without help; but by-and-by his work is too much for him alone, and he *must have a hand*; and one, by one, little children increase the family, until the wife's burden is much heavier than when she took it up. But he is just getting a start, and if they want to get rich (as every body does,) they must economize; so she gets along without help. She rises early, gets breakfast, often for several men, dresses the children, washes dishes, skims milk, churns, perhaps, sweeps rooms, makes beds, prepares dinner, "clears up," snatches an hour to sew, keeping a restless baby quiet meanwhile, gets supper, puts children to bed, and after they and husband are asleep, resting from *their* weariness, sits up to sew, that she may save paying a seamstress!

In addition to this daily routine, she does all the washing, ironing, baking, scrubbing, housecleaning, soap-making, and hog-killing work; it *costs so much* to hire help; and at the same time enacts the part of the lady of the house and entertains the company.

So year after year, she toils and drudges, not allowing herself opportunity for improving her mind, so that she may be a better guide and counsellor for her children. At length, her once fair face is faded and care-worn, and herself now and then prostrated by fits of illness, only to resume her wearying labor as soon as her returning strength permits. And thus she yearly becomes less able to bear the burden of her increasing household duties.

Too many men leave the wife to draw water and carry wood, and as for the baby—they think it a woman's place to tend children,—so it frets and cries, or the mother must work with it on her arm, while they read the paper and talk with the hired men. The farm increases in value and fertility, and the husband's labor becomes lighter, as he is able to hire more help; but it is still expected of the wife to do all the housework, with what little help the elder children, if they are girls, can give her.

At length—through this ceaseless application—they are ready to build,—and when the comfortable, new house is finished and nicely furnished, and the children are beginning to be a real help to her, the pale, sickly wife and mother lies down to die! She has saved by ceaseless, wearying toil, hundreds of dollars for her husband, and he has *lost what money is powerless to recall*; the companion of his youth, the one who has walked beside him and cheered him through life's most thorny paths! And such untimely deaths are whispered among friends as "*mysterious providences*," instead of the neglect of a proper *household economy*, on the farm!

These views are partly corroborated by statements in a recent report upon the *Insane Asylum at Hartford, Ct.* The Superintendent says—"that of one hundred and eighty-seven female patients, thirty-four per cent. were the *wives of farmers and mechanics*." The consideration of the causes which led to this most natural result, showed that between nursing, the accumulation of household duties and drudgery, and the *miserable, short-sighted economy which often led the husband to refrain from supplying the necessary domestic assistance*, the poor, heart-broken and discouraged wife had lost in turn her appetite, her rest, and her strength, her nervous system had become prostrated, and sinking under her burdens, she had sought refuge in the Asylum. Such is the language of the Report.

This great error has been a common one, and has desolated many a farm-house. It grows out of an overweening desire to *accumulate too fast*. We know men, *now*, with whom this is a passion that overrides everything else. Sometimes it is manifested in a desire to add $100 more to their railroad or other stock, at others to increase the acres of their land, or again to hold the notes of their neighbors. This passion makes them *mean* to themselves, *mean* to their families, and *mean* to their country; and they habitually cheat all these for the sake of hugging to their sordid souls a little more of that which they must soon leave, and perhaps to be quarrelled about by others. All this is *bad economy*. We do not advocate extravagance in anything,—but only that happy commingling of labor and leisure, of recreation and study with our daily duties, and that sympathetic association which gives life a charm, and which cannot fail to increase our real happiness. Let us listen more frequently to the promptings of a refined taste, and do some things about our homes with reference to *beauty*, as well as utility. These

will have a happy influence upon the mind, habits and character; will light up the home with sweet affections, and shed a fragrance over all its duties. The children will catch these virtues and carry them forth to the world to purify and strengthen man there, and will ever look back to such a homestead as the well-spring that sends out whatever dignifies and ennobles our natures. And this will be true *farm economy*.

For the New England Farmer.

"CLOVER HAY."

MESSRS. EDITORS:—As a subscriber and reader of your valuable paper, I notice your remarks of April 30th, and also the opinion of Dr. McClure, of Philadelphia, on "Clover Hay." Permit me to add, from my limited experience, that your suggestions strike me as worthy of notice. I cut last season, from seven acres and thirty rods, by actual measurement, a larger amount of hay, and of more value to my stock of cattle, than I have from the same number of acres during the past six years. My stock averaged twenty-five head—three yoke of oxen, seven cows, and the remainder two and three year olds. I commenced feeding out this kind of hay twice a day regularly, together with other kinds of different qualities; and from the time my stock came to the barn in November, up to the first of April, they have generally preferred the clover to other kinds of good hay. This was cut about the first week in July, and when in the blossom, dried one day and part of the next, so that the leaves should not waste before putting it in the barn. When mowed away, it was salted carefully, from two three quarts to the ton. My cattle have gained remarkably well, and added in flesh more than they have in past seasons when I have cut less of this kind of hay.

I think the salting was beneficial, as they did not waste much in feeding it out. Many good farmers are of the opinion that the best way is to put clover hay, as soon as it is wilted, into small tumbles and let it remain a few days; and in that way to be cured.

I am satisfied a little salt added is far better than to have it dried and the best part of the hay wasted by exposure to the heat, and it is certainly less labor in getting it cured.

I have been surprised to notice how far my clover hay has carried out my stock. As I observed, on seven acres and thirty rods, I obtained at least two tons to the acre. The land on which it grew was a deep, loamy, rich soil, descending to the south, and I think the amount of this kind of hay was equal to keeping one-fourth part of my whole stock through the season, from November to April. Many farmers are of opinion that clover hay is of less value than other kinds, but I am convinced, if well cured and cut in a proper time, it will spend and carry out a stock as well as almost any other kinds of hay we have in New England.

REUBEN R. DODGE.

Sutton, May 3, 1864.

REMARKS.—We are glad to find our opinion of the value of clover hay so fully sustained by one of the Worcester county farmers. We hope our correspondent will write often. His practical remarks are valuable. Where, by the way, is the pen of our old friend HARVEY DODGE? He is a farmer full of sound experiences, and should not suffer the world of facts which he has gained to be lost to his fellow-laborers. He must sharpen up his long dormant pen, and make our columns glow again.

For the New England Farmer.

THE CULTURE OF BEES.

MESSRS. EDITORS:—It is often the case that hives of bees are populous with plenty of bees, and their owner, in the usual time of swarming, looks every sunshiny day for a new colony, but is disappointed; the bees do not swarm, but cluster on the outside, or under the hive, and remain there till the honey season is nearly over, and, consequently, do not make sufficient honey upon which to winter.

Now, for the benefit of your readers and bee-keepers generally, I beg leave to say that there is no difficulty in removing a part of the bees, and putting them into another hive, in season for them to gather honey sufficient upon which to winter themselves, and perhaps with more perfect success when properly done. For several seasons previous to 1863, I had several stocks of bees apparently strong, which did not swarm, or make any surplus honey. In the spring of that year I had a call from Mr. R. S. Torrey, of Bangor, Me., who claimed that he could divide a stock of bees, and putting a portion of them into a new hive, where they must work or starve, and leave a sufficient quantity in the old hive to keep them in a prosperous condition, thus producing two colonies fully equal or superior to an old stock and its increase, which swarm in the natural way, some weeks or days later.

But I was skeptical. I did not believe it could be done, and told him so, and my neighbors, who are bee-keepers, were of my opinion. Torrey persisted in his statement, that it could be done in fifteen minutes. I had six old stocks, and reluctantly consented that he might divide one of them, provided he would warrant both to live and do well. As I did not know Torrey, and concluded that I had lost my bees, I resolved to have some fun out of the trial, and invited my neighbors to share with me the sport of witnessing the pain of the stings upon the operator, and his utter failure in his undertaking. But he had it all his own way—he handled the bees like pets who cared only to do his bidding. They even respected the lookers on, not even offering a sting or showing any signs of disrespect. He put a part of the bees into a new hive, and returned the rest to the old home, where they went immediately to work; and now, April 27, 1864, both colonies are in excellent condition, and bid as fair to prosper as any two hives I know of, with no extra care, except to cover them with a blanket during the chilly nights immediately after they were divided.

Not one of my old stocks swarmed in 1863; consequently, I gained nothing from them, while from the one I divided I obtained a colony much stronger than any that swarmed the usual way in this neighborhood—and most of my neighbors are bee-keepers.

Torrey is called the "Honey King of Maine," "The Bee Tamer," and many other singular titles, by the editors of some of the agricultural papers

of Maine and other States, which I think he richly deserves. His "Maine State Bee Hives" are getting very popular in this vicinity; not one who uses them but speaks in their praise, and are satisfied that Torrey is the Bee Monarch, and beats the world in the bee-hive business.

If this article shall meet Torrey's eye, and he will call on me this spring with some of his hives, I will, with implicit faith in his ability, employ him to divide more of my old colonies of bees. He is master of his business. J. ALLEN.

Bethlehem, Ct., April 27, 1864.

REMARKS.—From a considerable observation of Mr. Torrey's skill in handling bees, clearing out old hives, dividing swarms, &c., &c., and from an experience of several years' use of his hives, we do not think the commendations of our correspondent any too decided. Mr. Torrey has had a life's experience in his business, having begun it in his boyhood in the woods of his native State, and continued until he has now passed the meridian of life. He has introduced certain *graces* or *embellishments* into his art which are exceedingly attractive, such as inviting bees into curiously shaped glasses, which they filled and finished up with exquisite skill,—or writing their own inscriptions on the glass inside of the hive, so that it became perfectly visible to the beholder. The largest, richest, and most beautiful collection of hives, bees and honey, we ever witnessed, was presented by Mr. T. at the Maine State Fair at Augusta several years since. Tons and tons of honey remain uncollected every year, for want of a better knowledge how to keep and tend bees, who are our interesting and profitable co-workers.

Some persons are deterred from bee culture because they consider them dangerous. There is some ground for this belief, but scarcely so much as there is for declining to keep a horse, because he might kick or run away and do much injury. We have read accounts of serious occurrences, and even loss of life, by attacks from bees, but have never known of such a case in our own region. Like all other stock of the farm, they cannot be profitably reared and controlled without some knowledge of their habits and wants, and when these are understood, they will suggest a proper caution that will make all danger from them of little importance.

The art of bee-keeping is greatly injured by a set of lazy empirics, who have little knowledge of the habits of the bee, but who are full of pretensions, and roam over the country, visiting from house to house and practicing their deceptions upon the people. There has been so much of this that hundreds,—living in regions where there is excellent bee-pasturage, and where the annual income from them might amount to a handsome sum,—are disgusted with the whole thing, and have given up the culture entirely.

But there are good books and good oral teachers on the art. Huber and Langstroth's works, to the real lover of nature, have a charm beyond that of any novel, and their perusal will not only tend to the profit of the purse, but to the head and heart, for they purify and elevate the affections, and lead us to appreciate, more than ever, the wonderful things which are around us on the farm.

Perhaps one cause why so many losses have been realized by bee-keepers, is that they have employed *too much art* in the construction of their hives. They are too complicated, both for the worker and the owner. They have departed too widely from nature, from the habits and wants of the bee. The space above the box in which the bees have deposited their young and stores is generally too small, so that the moisture from them in cold weather does not pass freely off, but is condensed and falls back upon them. We look upon this as the source of more losses than all those occasioned by millers or other causes.

Honey is a wholesome article of food. It may be placed in the class of *luxuries* by some. Sugar used to be, but is now considered among the articles of *necessity*. Why not? It is very nutritious and palatable. For children and sedentary persons we should prefer a dollar's worth of sugar to a dollar's worth of beef. Honey may be made to take the place of sugar, and even that of *butter* in a great many instances, and in so doing we believe would promote the prosperity of the farm, and the health and happiness of the family.

Let us, then, give more attention to this delightful art; we mean a consistent, intelligent attention, eschewing the dogmas and superstitions that surround it. If novices in the art, let us gather our first information from some good book, or the practices of some good neighbor, and gradually increase it by our own constant observation and experience. Under such a course the bee-house will embellish the homestead, yield an annual profit and be a source of pleasure to the family.

A neighbor of ours—a mechanic—who has but a small garden about his house, finds his amusement and great pleasure in the culture of his bees, and, as a reward of his patient care of them, he took from their well stored boxes last summer between *two and three hundred pounds of the best honey*, and left them all they needed for their own use.

GAPES IN CHICKENS.—A writer in the *Rural New Yorker* says that he has found by accident, that dough raised with milk rising is a sure and safe remedy for gapes in chickens, fed while fermenting, but while still sweet. He has tried it for six years, but says that where he seasons the feed of his chickens with salt, as for cooking, they never have the gapes.

For the New England Farmer.

PLANTING THE APPLE TREE.

A SONG, BY THE "PEASANT BARD."

I.

We'll dig the turf, we'll turn the mold,
Tho' nature hard has bound it;
Make deep the bed, and let it hold
The stock, all mellow round it.

Chorus:

We'll set the tree, Donald,—we'll plant it out well,
And we'll have it in care and in keeping;
And mark and remember the words I shall tell:—
'T will be growing when we shall be sleeping.

II.

A lifeless stick it may appear
When wintry blasts are blowing,
But in the spring-time of the year
We'll see it live and growing.

III.

The swelling bud and flushing leaf
Will beautify ere long;
And weary warblers, for relief,
Perch here, and pour a song.

IV.

And years shall come, and years that go
Its boughs to fruit shall wed;
And mellow Autumn fill below
The table we have spread.

Chorus:

So set the tree, Donald,—we'll plant it out well,
And we'll have it in care and in keeping;
And mark and remember the words I shall tell:
'T will be growing when we shall be sleeping.

Gill, Mass.

NEW BOOKS.

THE GRAPE CULTURIST: A Treatise on the Cultivation of the Native Grape. By Andrew S. Fuller, Practical Horticulturist, Brooklyn, N. Y. For sale by A. Williams & Co., Boston.

The subjects discussed in this book are: Growing from Seed; Propagation by single Buds; Cuttings of unripe Wood; Propagating-Houses; Cuttings in open air; Layering the Vine; Grafting the Grape; Hybridizing and Crossing; Transplanting; Soil and Situation; Stem Appendages; Planting the Vine; Grape Trellises; Time to Prune, and Pruning and Training; Garden Culture; Miscellaneous; Insects and Diseases; Description of Varieties and a Review of various systems of Training. These several topics are familiarly discussed, with an ability evidently growing out of a practical acquaintance with the whole subject, and with such a clearness of expression, strengthened by engraved illustrations, as to make the way plain and easy to those who enter upon the culture of the grape for the first time. Theories are well enough in their place, but it is always pleasant and safer to know whether the author of the book is laying down theories or facts. If we know they are theories, we are at once on our guard and shape our operations accordingly; but if well-tested *facts*, we unhesitatingly proceed as if standing upon a sure basis.

We are glad that the culture of the grape is attracting so much attention, and that so many persons are venturing upon it in a small and careful way. They will not find it a difficult work, unless they attempt to do too much. The grapevine does not require a very rich soil, but a sheltered, warm, and well drained one, where rude winds will not thrash its foliage to pieces, nor standing water drown its tender and succulent fibrous roots. On a common soil, a little ashes, pounded bone and charcoal added annually, together with occasional watering from the sink spout in dry seasons, will give the vine a wonderful growth in wood and fruit.

Some of the varieties recently introduced are great accessions to the list. Mr. BULL has conferred a signal blessing upon the race in the introduction of his "Concord," which has been thoroughly tested, and stands high in the front ranks of the best varieties in the country. He and others are still striving for better ones than this, and the labors of some will be eventually crowned with success.

If the inexperienced grape grower will call to his aid some person who understands starting the vine on its way for the first five or six feet of its growth, and in pruning it once or twice, he will find little to perplex him elsewhere. In these two particulars a *half hour's actual demonstration* would fix the whole thing indelibly in his mind.

Mr. FULLER'S book is an excellent one, and will prove of much service to grape cultivators.

NOVEL MODE OF GROWING SQUASHES.

An excellent method of growing squashes, melons and other such vegetables, where a person has but little room, and wishes to make the most of it,—as a small city plat—is to plant them so that they will run on a trellis. Set four upright stakes or small posts, about two feet apart each way, in the centre of which plant the melons, squash or whatever else is wished. As the vines begin to run, support them upon the trellis by nailing across small slats of board, and when the melons set and begin to form fruit, erect a shelf for it by placing short pieces of boards across the slats previously nailed on. Pinch off the running shoots of the vines so as not to have too heavy a growth, and as they run higher, place additional slats for the purpose of supporting them. There are two advantages to this plan, and so far as we are acquainted, no disadvantage; it economizes space in the garden, and the fruit ripens earlier than when upon the ground half covered with leaves. Those of our readers who have small gardens would do well to "make a note" of this plan and give it a trial another season.—*California Farmer.*

NITRATE OF SODA.—It is said that watering strawberries with water in which *nitrate* of *soda* has been dissolved, to the amount of one ounce of soda to a gallon of water, will help the plants to produce a wonderful crop.

NITRE---SALTPETRE.

The beneficial effect of nitre upon vegetation has been understood from the earliest periods of which we have any account. It is the result of the union of nitric acid with potash, and in many parts of the world it is found in a natural state, and in immense quantities, and requiring only to be dug up and leached, and afterwards crystalized, to be ready for use. It is also frequently produced artificially by means of "nitre beds," and naturally under old buildings, deep cellars, &c.

The principal materials needed in the construction of nitre-beds are potash, which is supplied by vegetable substances in a state of decay, animal matter, which will give out ammonia, and this in turn, part with its nitrogen, and form with oxygen, the nitric acid, which unites with the potash of the ashes, or decaying vegetable matter, and thus forms NITRE.

Most farmers are acquainted with the very great value of soils taken from beneath tie-ups, stables, and other places of a like description, in which animals have been sheltered for many years, for manurial purposes, and have no doubt been surprised, on applying them to crops, by the sudden and sustained effects which they have produced. This is the result of nitre. The urine of the animals has filtered through the floor, together with a certain portion of the solid voidings, and having been constantly and effectually protected from the wasting influences of atmospheric action, the decompositions and recombinations requisite to the formation of nitre have gone on uninterruptedly year after year, till the soil has become impregnated with richness, surpassing in degree that of the finest compost, or the most energetic stable manure.

It is stated in a European publication of much merit, and as the result of actual experiment, that the solid excrement of about twenty cows and mules, in layers of four inches thick, with alternating layers of chalky soil, of similar thickness, and wet occasionally with the liquid voidings of the same animals, will produce from ten to twelve thousand pounds of saltpetre in four years. The bed, however, must be protected, and occasionally shovelled over. At the end of two years, the heap will be resolved to a fine, rich mould. It is then left for two years more, frequently turned, but not wet with urine during the last few months. In the formation of these beds, the "chalky soil" is not indispensably necessary, for experiment has proved, as well as science, that ashes, unleached, or leached, are better.

The following definite rules are laid down for the formation of beds, where this substitute is to be used:

Take one cord of clean cow dung, one cord of leached ashes, one cord of loam, or swamp muck. Mix the ashes and loam or muck well together, and having hard rammed the barn cellar floor, or that under a shed, put a layer on it of these mixed materials, four inches thick, then a layer of dung four inches thick, then another layer of mixture, and so on alternately, until the pile is four or five feet high, topping off with loam. Wet it over occasionally with urine, keeping it about as moist as garden loam, and turning it over occasionally.

If the foregoing process be adopted, the contents of the heap will become excellent compost the second year, and may be spread as a top-dressing, or applied like short manure to every description of field crops, with a certainty of the best results. In the vicinity of powder works, in which large quantities of nitre are consumed, we have frequently noticed the bags from which the nitre had been emptied, spread, before showers, or during storms, over the surface of mowing lands. The nitre impregnates the texture of these bags, and the rain washes it out and carries it into the soil, which acknowledges its receipt by a most luxuriant and beautiful crop.

Several years ago, when the potato rot prevailed to its greatest extent, we used saltpetre freely as a dressing and secured fine crops of potatoes both in quantity and quality. Very little rot occurred among them, while directly over the fence, in a neighbor's field, on the same kind of soil, and the use of the same variety of potatoe, the White Chenango, more than three-fourths of the whole crop rotted!

Cannot some of our farmers produce this substance at a cheaper rate, and find better results from it, too, than they can from most of the specific fertilizers now in use? Where wood ashes can be cheaply and readily obtained, we believe they can.

DESTROY THE CATERPILLARS!

Their name is legion, this spring, and they have begun their work early. Our people—we are sorry to say—do not yet appreciate the injury which they inflict upon the crops. This is evident in the culpable neglect which is almost everywhere seen, in the hundreds of filthy nests which are annually left undisturbed on the trees. An apple tree that is despoiled of its leaves this year, not only loses its growth and crop of fruit, but can scarcely recover its vigor again for two or three years to come. HARRIS says, "There are perhaps no insects which are so commonly and so universally destructive as caterpillars; they are inferior only to locusts in voracity, and equal or exceed them on their powers of increase, and in general are far more widely spread over vegetation." They are the young of moths and butterflies, and there are several hundred species in the New England

States. Their principal food is the leaves of plants, and consequently their injuries to vegetation are immense.

If their nests are attacked early in the morning,—or at any time when most of them are in the nest,—and they are young and the nest is not very firmly attached to the tree, it is not a discouraging labor to pass over an orchard of two or three acres. But if left until they are strong and the nest is well woven and tough, the labor will be one requiring much time and patience.

There are various ways of destroying them. A good mode is to take one of the spiral brushes made for the purpose, fix it to a light pole ten or twelve feet in length, dip the brush into a bucket of strong soap suds and twist it about in the nest. This will detach it from the tree, and wherever the suds fairly wets one of the caterpillars it will die. This is the cheapest, easiest and best way of destroying them, in our knowledge.

Some persons blow them off with gunpowder, others burn them,—but these modes are objectionable, as they more or less injure the tree. We hope that a general attack will be made upon the whole race, and that we may see cleaner fruit trees throughout the coming summer.

SHEEP HUSBANDRY.

Upon another page, we have commenced a series of articles on *Sheep Husbandry*, which will be worth the attention of all persons engaged in the culture of sheep, and which will, perhaps, be equally as important to the purchaser and manufacturer of wool. They have been prepared by a gentleman of large and critical observation, who has been familiar for many years with the prices and qualities of wools, and the kinds best adapted to the wants of woollen manufacturers in this country. Some portions of them were formerly published in the Southbridge *Journal*, but they have been re-written by the author and enlarged at our request, expressly for the columns of the *Farmer*. We shall present them from week to week until the series is completed.

In the meantime, if any of our readers desire more full information on any special point under discussion, we have no doubt that our obliging correspondent will give it as far as it lies in his power, as his object is to assist in promoting this important branch of our national industry. It will be observed that, in the course of the series, the writer has touched upon nearly every conceivable point relating to breeds and breeding, to the modes of tending and feeding, to climatic influences, to the effect of food upon the quality of the wool, change of pasturage, prices of wool and mutton, comparisons of profit in raising wool and corn, differences in the cost of transportation, &c., &c. Indeed, he seems to have a most intimate and accurate knowledge of the whole subject, in its various bearings of producing the staple, the prices which it has borne for many years, and the qualities demanded in our varied manufactures.

None interested in this important branch of industry can fail to be gratified with the lucid and valuable facts which he will from time to time present.

For the New England Farmer.

THE APPLICATION OF IDEAS TO PRACTICAL USE.

Emerson says, "Some men are better than they know." On the other hand, there are many who know better than they are. The difference between the man who adds to the uses and embellishments of life, and the man who leaves the world as he found it, does not consist in knowledge, but in the reproduction of knowledge—in appropriating, testing and applying the ideas and waifs of ideas, which pass from one mind to another. Have those who ridiculed what they are pleased to call "Book Farming," ever tested in good faith, the ideas and suggestions which they read with so much contempt, because they do not come to them from some practical men? Have they ever seriously inquired what practical use may be made a principle or a fact stated in a book? For the sake of the moral lesson, as well as the practical benefit to be derived from it, I have taken the pains to copy for the readers of the *Farmer*, the following story contained in the essays of Sir E. Bulwer Lytton.

A certain nobleman, very proud of the extent and beauty of his pleasure grounds, chancing one day to call on a small squire, whose garden might cover about half an acre, was greatly struck with the brilliant colors of his neighbor's flowers. "Aye, my lord, the flowers are well enough," said the squire, "but permit me to show you my grapes." Conducted into a little, old-fashioned greenhouse, which served as a vinery, my lord gazed with mortification and envy on grapes twice as fine as his own. "My dear friend, you have a jewel of a gardener; let me see him." The gardener was called—the single gardener, a simple looking young man under thirty: "Accept my compliments on your flower beds and your grapes," said my lord, "and tell me if you can why your flowers are so much brighter, and your grapes so much finer than mine?" "Please, your lordship," said the man, "I have not had the advantage of much education; I ben't no scholar, but as to the flowers and the vines, the secret as to treating them just came to me, you see, by chance."

"By chance? explain," said the peer.

"Well, my lord, three years ago master sent me to Lunnon on business of his'n, and it came on to rain and I took shelter in a mews, you see."

"Yes, you took shelter in a mews, what then?"

"And there were two gentlemen taking shelter, too; and they were talking to each other about charcoal."

"About charcoal? Go on."

"And one said that it had done a deal of good in many cases of sickness, and specially in the first stage of the cholera, and I took note on my mind of that, because we'd had the cholera in our vil-

lage the year afore, and I guessed the two gentlemen were doctors and knew what they were talking about."

"I dare say they did; but flowers and vines don't have the cholera, do they?"

"No, my lord, but they have complaints of their own; and one of the gentlemen went on to say that charcoal had a special good effect upon all vegetable life, and told a story of a vine-dresser in Germany, I think, who had made a very poor, sickly vineyard one of the best in all those parts, simply by charcoal-dressings. So I naturally pricked up my ears at that, for our vines were in so bad a way, that master thought of doing away with them altogether. 'Aye,' said the other gentleman, 'and see how a little sprinkling of charcoal will brighten up a flower bed.'

"The rain was now over, and the gentlemen left the mews; and I thought, 'Well, but before I try the charcoal on my plants, I'd best make some inquiry of them as aren't doctors, but gardeners. So I went to our nursery man who has a deal o' book learning, and I asked him if he'd ever heard of charcoal-dressing being good for vines, and he said he'd read in a book that it was so, but had never tried it. He kindly lent me the book, which was translated from some forren one. And after I had picked out of it all I could, I tried the charcoal in the way the book told me to try it; and that's how the flowers and the grapes came to please you, my lord. It was a lucky chance that I ever heard those gentlemen talking in the mews, please your lordship."

"Chance happens to all" said the peer, sententiously, "but to turn chance to account is the gift of few."

His lordship returning home gazed gloomily on the hues of his vast parterres; he visited his vineries and scowled at the clusters; he summoned his head gardener, a gentleman of the highest repute for science, and who never spoke of a cowslip but by its latin name. To this learned personage his lordship communicated what he had heard and seen of the benignant effects of charcoal, and produced in proof, a magnificent bunch of grapes, which he had brought from the squire's. "My lord," said the gardener, scarcely glancing at the grapes, "Squire ——'s gardener must be a poor ignorant creature to fancy he had discovered a secret which is so very well known to every professed horticulturist. Professor Liebig has treated of the good effects of charcoal-dressing to vines especially, and it is to be explained upon these principles"—therewith the learned man entered into a profound dissertation, of which his lordship did not understand a word.

"Well, then," said the peer, cutting short the harrangue, "since you know so well, that charcoal-dressing is good for vines and flowers, have you ever tried it on mine?"

"I can't say that I have," my lord; "it did not come into my head."

"Nay," replied the peer, "chance put it into your head, but thought never took it out of your head."

My lord, who, if he did not know much about horticulture, was a good judge of mankind, dismissed the man of learning, and with many apologies for seeking to rob his neighbor of such a treasure, asked the squire to transfer to his service the man of genius.

The squire, who thought that now the charcoal had been once discovered, any new gardener could apply it just as well as the old one, was too happy to oblige my lord, and advance the fortune of an honest fellow, born in the village. His lordship knew very well that a man who makes good use of the ideas received by chance, will make a still better use of ideas received through study. He took some kind, but not altogether unselfish pains with the training and education of the man of genius, whom he had gained to his service. The man is now my lord's head forester and bailiff. The woods thrive under him, the farm pays largely. He and my lord are both the richer for the connection between them. He is not the less practically pains-taking, though he no longer ascribes a successful experiment to chance. R.

For the New England Farmer.

SHEEP HUSBANDRY--No. 1.

Dear Sir:—It is a somewhat strange anomaly that while rapid progress has been made in every department of agriculture in this State, that of sheep husbandry has fallen off to a very great extent. And when we consider the important relation which this branch of agriculture bears to manufactures and commerce, it appears still stranger that the political economist, who we should expect would be ever directing his attention to the developing of the resources of the country, should have allowed the important subject to pass unnoticed. We think that had there been as great efforts made to make wool king as there have been to make cotton a sovereign power, the latter could not have reigned without a rival.

An idea of the importance of the subject may be gathered from the following figures. In our manufactories in the United States we are annually consuming about 122,000,000 pounds of wool; that we only produce about half that quantity; that we shall import this year worsted goods and mixed worsted and cottons to the amount of $17,367,672; that nearly every yard of broadcloth consumed in the country is imported, and a large portion of our fine fancy cassimeres, and a large amount of our coarser woolens, blankets and carpets are also imported. I am not sure that if we consider every article imported, into the composition of which wool enters, we should find that we import as much in a manufactured state as we manufacture. If this is correct, then, in order to supply ourselves with the raw material of what we ought to manufacture, we should require, in addition to what we now raise, about 190,000,000 pounds—making a total of about 250,000,000 pounds—and this, while many of our Western farmers are without a market for their corn, because it will not pay for their transportation, whereas wool is fetching a high price and sheep would consume their corn—and what could be raised with more ease than roots, which are excellent for sheep? They are better than corn, and should either be dispensed with it should be the latter.

The cost of transportion is quite an item in the profits arising from the products of the soil. Wheat and corn are among the heaviest products that seek a distant market. From Central Illinois it costs over fifty cents to deliver a bushel of corn in New York, while less than two cents will deliver a pound of wool in the same place. What

a difference it would make in the profits of the farm between delivering the corn in New York to have it converted into wool there, and converting the corn into wool in Illinois and delivering it in New York. But our American farmers do worse than this—they send, at a heavy transportation cost, their wheat and corn to Europe to have them made into various fabrics and delivered at a still smaller per centage of cost than the cost of transporting wool from the far West to any market in the East. Mr. Grinnell says:—"At any point two hundred miles from Chicago, this ratio of cost in freighting is well established; that to transport your products to the seaboard, on wheat you pay 80 per cent. of its value, on pork 30 per cent., on beef 20 per cent., gross on wool 4 per cent. This is not conjecture, but my own experience, that I give 80 per cent. of the value of my wheat, which impoverishes my farm, to find a market, and 4 per cent. to find the best wool market, the production of which enriches my acres beyond computation."

The United States, as a country, is strictly agricultural, and yet does not produce more than half of the wool which the country requires for its manufactures. This production would enrich the soil which raised it, while we largely export those products which are rendering sterile the fertile soil upon which they grow.

The production of wool has not kept pace with the increased consumption of our manufactures. In 1840 there were 50,808,524 lbs. of wool consumed in this country. Of this, 35,802,114 was the product of the United States, and 15,006,410 was imported. In 1850, there were consumed 71,186,763 lbs. Of this, 52,516,969 lbs. was home production, while 18,669,794 lbs. was imported. In 1860, the consumption were 95,098,000 lbs., of which 60,511,343 were produced at home, and 34,586,657 were the production of foreign soils. But while the United States have increased their production of wool, some of the best wool producing States show a decrease. Ohio had, in 1854, 4,822,171 sheep; in 1858, that number was reduced to 3,307,798; and under the stimulus of the increased demand for wool, on account of the scarcity of cotton, the number increased in 1862 to 4,740,227.

But to come nearer home, our own State is well adapted for growing wool, but during the last twenty years there has been a great falling off. We find by reference to statistics that the number of sheep in this State in 1840, was 378,226; in 1850, 188,651; in 1860, 113,111; being a decrease in twenty years of 265,115. In 1845, the number of pounds of wool grown was 1,026,230; in ten years from that time the decrease in the production of wool was over 600,000 pounds. In the same year, the value of sheep and wool was $923,000; in 1855 it was $464,889, showing a falling off of near a half million dollars. In 1850, the wool produced in the State was 585,000 pounds, while the amount consumed was 22,000,000 pounds, exclusive of domestic manufactures. In 1860, while the quantity consumed had greatly increased, the production had fallen to 373,789. Could anything be stranger than this, with a market at their doors and cash on delivery? But there is a cause for everything, and there are a number for this. One, we think, has been removed in the protection afforded the farmer by what is known as the dog-law, one of its wise provisions being found in Section 64: "Whoever suffers loss by reason of the worrying, maiming, or killing of his sheep or lambs by dogs, may, within thirty days after he knows of such loss, present proof thereof to the mayor or selectmen of the city or town wherein the damage is done, and, thereupon, said officers shall draw an order in favor of the owner upon the treasurer of said city or town for the amount of such loss."

Other causes and their remedies will be pointed out in a series of articles to follow on this subject.

TYRO.

SCOURS IN SHEEP.—In commenting upon an article of a correspondent, recently, in relation to this disease, we suggested that it may have been induced by the bad fodder upon which they have been fed—that is, upon hay that was injured in curing last summer.

A gentleman from Keene informed us yesterday that he had lost fifty sheep out of a flock of two hundred and fifty, although he had fed grain liberally to them, and taken every pains in his power to keep them in health and in good condition. He imputes the cause of the disease to the bad fodder that was harvested last summer. He says the losses by sheep owners are common in all that region, and they are so extensive as to become of a serious character.

REMEDY FOR SCOURS IN SHEEP.—Mr. ALFRED POOR, of Andover, Mass., informs us that in one or two cases of "scours" that came under his personal observation, the sheep were completely cured by eating *common salt*. It had been left where they accidentally came to it. They ate of it freely, soon began to mend, and in a few days thoroughly recovered. The remedy—if remedy it is—is so simple and cheap that any one may prove it.

THE BLACK KNOT.—A friend in Roxbury has handed us two or three branches from different trees or shrubs, that are completely covered with the *black knot* of the very worst type. Neither of them are from the plum tree. This is a startling matter. Is this scourge to visit and gradually destroy our climbing shrubs, hedges, and perhaps apples and pear trees? We hope not; and yet we see it here in its way to them all. The plum crop has been nearly cut off for several years from this pest, which has baffled all attempts to prevent its destructive tendencies, and now it is moving on to blast other common plants. We hope some means may be discovered to arrest its progress.

PRUNING ORCHARDS.—It is a very good rule, and the nearer it is followed the better, that no shoot should be allowed to remain longer than one year on a tree that will require removat a ny future time.

ALOES---TO DESTROY INSECTS ON PLANTS.

In your journal for May, 1860, you request your readers to try aloes as a protection of plants from insects, and report. As I have been induced to try it, by an article in the *Southern Cultivator* for February, 1859, page 37, giving a translation from F. V. Raspail, recommending it, I will give you the results of my experiment on cabbage plants.

I was very much annoyed by cut worms, very often not getting more than three-fourths of a stand, even after replanting several times.

When ready to set out the plants last spring, (1859) I put from ¾ to 1 pound of aloes in a tin pan and poured hot water over it, and I stirred it until the water could dissolve no more; I then poured off the water into an empty whiskey barrel and repeated the operation until all the aloes was dissolved; I then filled the barrel with cold water, and as I planted the cabbage, I poured the solution on and around it, and did not use it any more for the same crop, and out of from 200 to 250 plants I had but about 15 cut; those I replanted and watered again with the solution and they did not trouble me any more this time.

I tried it again last fall on another piece of ground in the same garden, with about the same result.

This spring I tried it again on the same piece of ground as last year, and I had but five plants cut.

I think if the solution, made much weaker, was used once a week until the cabbage was too hard for them to cut, it would keep them off entirely.

I have not tried it on anything but cabbage.—*Southern Cultivator.*

WATERING HORSES.

The quantity as well as quality of the water given a horse will greaty affect his condition. Perhaps no animal is more distressed by thirst than the horse, a fact not generally known, or if known, not fully appreciated. Horses should be watered *regularly*, when not at work, as well as when at work, provided, in the latter case, that care is taken not to let him have it when overheated by work. Irregularity in the supply of water is often followed by a refusal to partake of solid food, and more frequently by colic and founder, in consequence of his drinking inordinately when an opportunity offers. For horses, when they are not at work, it is perfectly safe to keep a supply of pure water always within their reach; but as before remarked, there is some danger in this plan when they are worked or driven, and are likely to become overheated.

There is a very certain way of determining when a horse has been neglected. If the master, on entering the stable, and lifting the water bucket, finds the animal placing himself in an attitude of expectation, and eagerly gazing upon the vessel, it is point blank evidence that his usual supply of water has been withheld. Whenever it is possible, let the horse have water from a running stream.—*Stock Journal.*

FRANCE is swarming with and devoured by insects because she has gluttonously eaten up her small birds; which were her natural allies against destructive insects.

THE BLACK KNOT.—A friend in Roxbury has handed us two or three branches from different trees or shrubs, that are completely covered with the *black knot* of the very worst type. Neither of them are from the plum tree. This is a startling matter. Is this scourge to visit and gradually destroy our climbing shrubs, hedges, and perhaps apples and pear trees? We hope not; and yet we see it here in its way to them all. The plum crop has been nearly cut off for several years from this pest, which has baffled all attempts to prevent its destructive tendencies, and now it is moving on to blast other common plants. We hope some means may be discovered to arrest its progress.

WILTED POTATOES FOR PLANTING. — Some writers have recommended the planting of dried potatoes as a preventive of the rot. A Pennsylvania correspondent of the *Rural New Yorker* says:

I once overlooked a few rows dropped, which remained unnoticed and consequently uncovered during several days, and not only wilted but considerably dried. These had the advantage in the strong and healthy appearance of the tops throughout the season, and in the tubers at digging, over those covered fresh from the pit. Cut the potatoes and scatter on a little plaster, to prevent bleeding, and allow to wilt if time and circumstances will admit.

COVERED MANURES.—A late number of the *Journal of Agriculture* contains a statement of the result of an experiment made to determine the relative value of manure made under cover, and that exposed in the barnyard. Both manures were applied to potatoes in equal quantities. The yield on equal portions of land was as follows: Manure from barnyard, 252 bushels per acre; manure made under cover, 297 bushels per acre.

CHEAP PAINTS.—The essential part of all good paints properly so called, is linseed oil. Oil, if well boiled, may be applied alone, and affords an excellent protection to hard wood and implements and upon floors. Sundry substances ground very fine are used to mix with the oil, and in proportion as they thicken the oil and form an opaque coating, they are said to possess "body." A pretty good cheap paint for outside work is made by mixing plaster of Paris with white lead or zinc white, and grinding them together in a paint mill with oil. Plaster alone may be used, and it is said to form a durable and cheap paint. Of course any color may be given which is desired.—*American Agriculturist.*

OIL THE NAILS.—If you wish to drive a cut nail into a seasoned oak timber, and not have it break or bend, just have a small quantity of oil near by and dip the nail before driving, and it will never fail to go. In mending carts and ploughs this is of great advantage, for they are generally mostly of oak wood. In straightening old nails before using, let it be done on wood, and with easy blows. If done on iron, they will be sure to break.

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CATTLE MARKETS FOR MAY.

The following is a summary of the reports for the five weeks ending May 18, 1864:

NUMBER AT MARKET.

	Cattle.	*Sheep.*	*Shotes.*	*Fat Hogs.*	*Veals.*
April 20	1716	5750	700	1500	1000
" 27	1082	2704	800	1500	1000
May 4	844	4856	1200	700	1000
" 11	1038	1818	1100	1400	900
" 18	750	1700	700	900	875
Total	5430	16,828	4500	6000	4775

The following table exhibits the number of cattle and sheep from each State for the last five weeks, and for the corresponding five weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	*Sheep.*	*Cattle.*	*Sheep.*
Maine	149	—	191	—
New Hampshire	416	3858	626	3892
Vermont	1080	6186	891	5887
Massachusetts	639	2596	719	933
Northern New York	16	—	33	—
Western States	3130	4188	2872	314
Canada	—	—	200	—
Total for the five weeks	5,430	16,828	5,532	11,266
Total, since Jan. 1, (20 weeks,)	27,330	87,258	28,044	54,065

PRICES.

	April 20.	*April* 27.	*May* 4.	*May* 11.	*May* 18.
Beef, 1, 2, 3 qual...	9½@12	9½@12	10 @12	10 @13	11 @13½
" ex. and prem.	12½@13	12½@13	12½@13	13 @13½	13½@—
Sheep ₩ lb.	8½@10	8½@10	8½@10½	8½@10½	10@11
" sheared	—@—	—@—	4 @7	4 @7½	6 @9
Shotes, retail	8½@9½	8½@10	8½@11	9 @12	9 @11
Beef hides, ₩ lb.	9½@10	10 @10½	10 @11	10 @11	10 @11
Pelts, wool on	$3½@4	$3½@4	$3½@4	$3½@4	3½@4

REMARKS.—Last month we remarked that live stock had been sold at higher prices during the month of April than ever before at this market. Since then prices have gradually, but not steadily, advanced. What are we coming to? is a question more easily and more often asked than answered. Some solve all mysteries by ascribing high prices to "the speculators." Others believe that the ups and downs of trade, like the ebbing and flowing of the tide, are governed by laws which are as little affected by speculators as the dust of old Esop's coach was by the fly that rested upon one of its wheels. Others again satisfy themselves with the assumption that there is an actual scarcity of cattle and sheep, of pigs and poultry. The statistics of the cattle market do not appear to authorize this conclusion. Our attempt last month to illustrate this was defeated by a mistake in figures. Our last report, (May 18,) is for the twentieth week of the year. Compared with last year and the year before, the number of cattle and sheep stands as follows:

	Cattle.	*Sheep.*
1864, (first 20 weeks)	27,330	87,278
1863, " " "	28,044	54,065
1862, " " "	24,840	53,982

Showing that thus far in the year the whole number of cattle at market is only 714 less than for the same time last year, and that of sheep 33,193 greater; and both cattle and sheep are largely in excess of the year before. It is evident, therefore, that, compared with other years, there is no falling off in the supply, however much it may be exceeded by the demand. The market is said to be unusually well supplied with fresh fish. And yet cattle and sheep, calves and hogs brought high prices, and found a quicker sale at the last market, than we have ever before witnessed.

The following from our report of sales, May 21, will show the state of the market:

J. M. Bean sold 6 oxen to J. S. Allison, by the lump, at what the seller estimated equal to 12½c ₩ lb., and 8 to the Chamberlain Bros., 4 at 12c and 4 at 11c, on seller's estimate of weight.

J. W. Judkins sold 10 cattle to W. E. Gowing, on commission.

G. W. Brownell sold 7 oxen to S. F. Woodbridge, for $770, or 12c ₩ lb; one pair of steers for $180, or 12c; one cow to C. Atherton, laid at 625 lbs., for $70, and a milch cow for $62.50.

G. W. Barker sold 8 oxen for $110 ₩ head, or 12c ₩ lb; and 2 beef cows at about 10c ₩ lb.

Geo. Baldwin marketed an extra pair of young oxen, the best at Cambridge, so far as we saw, and as good, he claimed, as your cracked-up River Cattle, fed by Geo. Sleeper, of Corinth, Vt., which weighed 3680 lbs., 13 miles from home, and were laid to dress 2250 lbs. of hide, tallow and dressed beef, at 14c ₩ pound.

D. A. Philbrick had a fine lot of oxen this week, mostly from the Merrimack Valley, which turns out as good oxen, he contends, as the much vaunted Connecticut River. One pair in particular were as good as the best. They were fed by Asa W. Greeley, of Salisbury, Mass. Mr. Greeley bought these oxen last November, paying $145 for the yoke. After feeding them liberally for about seven months, he sold them to Mr. Philbrick for $325, more than double the money. Happening to strike the market in a very fortunate week, Mr. Philbrick sold them for $360. They weighed $4200 lbs. at home. Mr. Philbrick also sold 14 oxen averaging 3300 lbs. ₩ pair at Brighton for 12½c.

Wm. Scollans & Co. sold 29 to S. S. Learnard, of an average live weight of 1579 lbs, at 13½c, 27 sk; 33 to J. F. Taylor, 1378 lbs. each, at 13½c, 28 sk; 14 to H. W. Jordan, 1237 lbs. each, at 13½c, dressed; 23 to Geo. Wildes, 1226 lbs, at 13c, 29 sk; and 32 to Brooks & Stone, 1274 lbs. each, at 12c, ½ sk.

STORE CATTLE.—Excepting a few milch cows, there are no stores at market at this season. This week we noticed but few milkers. Noted the sales of one cow and young calf for $45, another for $68, and another for $75. Geo. Mann reports the sale of 12 cows and calves at from $32 to $50 each. The retail dealers say the market is not as good as it was a few weeks ago.